AMERICA ON "FIRE": WILL THE CRYPTO FRENZY LEAD TO FINANCIAL INDEPENDENCE AND EARLY RETIREMENT OR FINANCIAL RUIN?

HYBRID HEARING

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OF THE

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AMERICA ON "FIRE": WILL THE CRYPTO FRENZY LEAD TO FINANCIAL INDEPENDENCE AND EARLY RETIREMENT OR FINANCIAL RUIN?

Wednesday, June 30, 2021

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON OVERSIGHT
AND INVESTIGATIONS,
COMMITTEE ON FINANCIAL SERVICES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2128, Rayburn House Office Building, Hon. Al Green [chairman of the subcommittee] presiding.

Members present: Representatives Green, Adams, Tlaib, Garcia of Illinois, Garcia of Texas, Williams of Georgia; Emmer, Loudermilk, Mooney, Kustoff, and Timmons.

Ex officio present: Representative Waters.

Also present: Representatives Sherman, Davidson, and Gonzalez of Ohio.

Chairman GREEN. Good morning, everyone. I am Congressman Al Green, and it is my honor to call the Oversight and Investigations Subcommittee to order.

Without objection, the Chair is authorized to declare a recess of the subcommittee at any time. Also, without objection, Members of the full Financial Services Committee who are not members of this subcommittee are authorized to participate in today's hearing. And I would like to note that Mr. Brad Sherman, who is a member of the Full Committee, without objection will be accepted as a participant.

Today's hearing is entitled, "America on 'FIRE':—'FIRE' being an acronym for financial independence/retire early—Will the Crypto Frenzy Lead to Financial Independence and Early Retirement or Financial Ruin?"

With the hybrid format of this hearing, we will have some members and witnesses participating in person and others on the Webex platform. I remind all Members participating remotely to keep themselves muted when they are not being recognized by the Chair. The staff has been instructed not to mute Members, except when a Member is not being recognized by the Chair and there is inadvertent background noise.

Members are also reminded that they may participate in only one remote proceeding at a time. If you are participating remotely today, please keep your camera on, and if you choose to attend a different remote proceeding, please turn your camera off.

I now recognize myself for 2 minutes to give an opening statement.

It is my pleasure to open the second in a series of Financial Services Committee hearings on issues related to cryptocurrency and digital assets. Most of us in this room are old enough to remember the financial calamities that cost so many, so much: the 2008 mortgage crisis; the Allen Stanford Ponzi scheme; and the Bernard Madoff Ponzi scheme. In each of these cases, and in others that I haven't enumerated, investors and financial institutions suffered severe losses, then sought and/or received bailouts from the Federal Treasury. Their refrain seems to have been, "Keep the government out of my life until I lose money."

So today, we ask, will there be a bailout of digital asset investors if their investments' market value drops to zero? If we believe that such is not the role of the Federal Government, should there be an amount or form of reserves required to backstop digital securities should they fail, or, instead, are today's investors in digital assets entirely reasonable in expecting the Federal Government to provide a backstop in certain cryptocurrencies should these digital assets become large enough to have a systemic impact on our economy? If so, should there be greater Federal oversight and rating agencies to evaluate the risk and performance of these digital assets?

Today's hearing will consider the answers to these questions and assess the systemic risk to the economy, as well as the risk of loss to individual investors posed by recent periods of extreme volatility in crypto assets that are not backed by any form of tangible collateral.

It is now my pleasure to yield to the new ranking member of the subcommittee, whom I must congratulate, the gentleman from Minnesota, Mr. Emmer. And I do look forward to working with you.

Mr. EMMER. Thank you, Mr. Chairman. I, too, look forward to working with you. I appreciate you holding this hearing today, and I will give a big thank you to our witnesses for appearing before the committee. I look forward to all of your testimony.

Financial technology and cryptocurrency are the future of the global financial system. In general, Fintech lowers the barriers to entry to the traditional financial system and offers all consumers, no matter where they are, the ability to access convenient financial services at low competitive costs.

Cryptocurrency is no exception, as we have seen from the huge consumer demand for these innovative assets backed by technology that is permissionless, open, and private. Cryptocurrency allows people to transact with each other in real time across borders for very little cost in a way that is so transparent and verifiable, that it maintains more trust than traditional financial transactions with a third-party intermediary.

Most importantly, cryptocurrency and blockchain technology unlock access to opportunity. The open-source nature of these technologies offers millions of Americans the opportunity to study the underlying code, develop blockchain projects, and launch their own businesses, all without having to ask anyone for permission. That is an incredible opportunity.

Over the last few years, I have been fortunate to meet with many great crypto and blockchain innovators. The common refrain during our discussions is that they so badly want to develop their new crypto and blockchain ideas right here in the United States, but they don't, because of continuing uncertainty with Federal regulation and, perhaps more importantly, the lack of enforcement of existing laws and regulations. They are afraid to launch new projects that, for example, might classify them to be a, "money transmitter," even though their work has nothing to do with money transmission.

Still, the thought of having to comply with an overly burdensome State-based money transmission licensing system in the United States is too much of a challenge for these entrepreneurs to be worth their time and their investment, so they head overseas where the regulatory compliance is more streamlined.

I have also been told by two co-founders of a company, who are in the midst of developing a new blockchain network, that they wanted to hire American developers, but because there isn't a streamlined process at the SEC to determine, what is a security, they couldn't pay American developers with their token. So, they actually went out and hired a team of developers in Europe instead, where they can confidently comply with existing regulation.

As I mentioned, Fintech and cryptocurrencies are the future of finance, but we are missing out as a country because American entrepreneurs are still unsure of how to navigate our existing regulatory system. This means high-tech jobs are going overseas, and capital formation opportunities for everyday Americans are being missed, all part of the chilling effect that comes when we do not answer the questions that industry leaders and consumers are begging for, questions like: what digital assets are a security; what digital assets are a commodity; and what digital assets are a currency? Answering these questions will keep innovation here in America and unlock new opportunities for every American to access.

To conclude, let's be clear that these things are already regulated, but we need clarity in application and enforcement of the existing laws and regulations. There are also areas where we can and should streamline our regulatory framework to ensure that we realize and benefit from crypto investment and innovation right here in the United States. I look forward to learning from the witnesses how we can address these challenges, and I yield back the remainder of my time.

Chairman GREEN. The gentleman yields back. The Chair now recognizes the gentleman from California, Mr. Sherman, who is also the Chair of our Subcommittee on Investor Protection, Entrepreneurship, and Capital Markets, for 1 minute for an opening statement.

Mr. SHERMAN. Thank you so much for this time. Those in the cryptocurrency space are naturally pro-crypto. Their fortunes, their relevance, and their fame depends upon the success of cryptocurrency. Cryptocurrency is something you can bet on, but if people want to have the animal spirits to take risks, I would prefer them to invest in equity markets to support the building of American companies, or the California lottery to support the schools in my State. Cryptocurrencies are highly volatile, so one person makes a million dollars and retires at age 45 and loses $100,000, Coinbase makes money, and one millionaire goes on TV and says how wonderful it is, but nine others do not retire in dignity, but instead become eligible for Medicaid.

Cryptocurrencies can ultimately be successful only if they are successful currencies, and evading the Know Your Customer (KYC) rule is the one thing the cryptocurrencies have as an advantage to the U.S. dollar. Cryptocurrencies have the political support of the patriotic anarchists who are rooting for tax evasion. I hope we shut it down.

Chairman GREEN. The gentleman's time has expired.

The Chair now recognizes the Chair of the full Financial Services Committee, the gentlewoman from California, Chairwoman Waters, for an opening statement.

Chairwoman WATERS. Thank you very much, Chairman Green. Congress and regulators face many challenges as we grapple with how to best regulate cryptocurrencies, including cryptocurrency issuers, exchanges, and investments. This committee is committed to providing not only more transparency in this minimally-regulated industry, but to ensuring that appropriate safeguards are in place, and so we have begun a thorough examination of this marketplace.

Today, I look forward to hearing from our panel about the risk of fraud and market manipulation that can hurt retail investors and regular consumers. Furthermore, I look forward to learning about the systemic risk presented by hedge funds rushing to invest in highly-volatile cryptocurrencies and cryptocurrency derivatives. So, thank you, Chairman Green, for convening this hearing today, and I yield back the balance of my time.

Chairman GREEN. Thank you, Madam Chairwoman.

The Chair now recognizes the Vice Chair of the subcommittee, Representative Williams of Georgia, for 1 minute for her opening statement.

Ms. WILLIAMS OF GEORGIA. Thank you, Mr. Chairman, and thank you to all of our witnesses for joining us today for this critical conversation. Often in Congress, it is up to us to write the rules of the road while the road is being built. This rings especially true when we talk about the rapid development of digital assets. We have to be sure that the legislative regulatory frameworks governing digital assets keep up with the pace of innovation. What is at stake is ensuring that financial innovation is appropriately serving all of the people. The people of Georgia's 5th District want financial services that are responsible and help them improve their lives, and it is our responsibility to make sure that any financial innovations, including digital assets, meet that bar. I look forward to our discussion today, Mr. Chairman, and I yield back the balance of my time.

Chairman GREEN. The gentlelady yields back, and thank you, Ms. Williams. It is now my honor to welcome each of our witnesses, and I am pleased to introduce our panel: Eva Su, a Financial Economics Analyst for the Congressional Research Service; Alexis Goldstein, the director of financial policy at the Open Markets Institute; Christine Parker, a partner at Reed Smith LLP; Sarah

Hammer, managing director of the Stevens Center for Innovation in Finance at the Wharton School of the University of Pennsylvania; and Peter Van Valkenburgh, the director of research at Coin Center. Welcome to each of you, and thank you for being here today.

The witnesses will be recognized for 5 minutes each to give an oral presentation of their testimony. Once the witnesses have finished their testimony, each Member will have 5 minutes within which to ask questions.

For the witnesses in the hearing room, on the table in front of you is a timer that will indicate how much time you have left. When you have 1 minute remaining, a yellow light will appear. I will ask you to be mindful of the timer, and when the red light appears, to quickly wrap up your testimony so that we can be respectful of both the other witnesses' and the committee members' time. And without objection, your written statements will be made a part of the record.

Ms. Su, you are now recognized for 5 minutes to give an oral presentation of your testimony.

STATEMENT OF EVA SU, FINANCIAL ECONOMICS ANALYST, CONGRESSIONAL RESEARCH SERVICE (CRS)

Ms. SU. Thank you. Chairman Green, Ranking Member Emmer, and members of the subcommittee, thank you for the opportunity to testify today. My name is Eva Su, and I am an analyst in financial economics at the Congressional Research Service (CRS), focusing on capital markets and securities regulation. The CRS provides Congress with analysis that is authoritative, confidential, objective, and nonpartisan. Any arguments referenced in my written or oral testimony are for the purposes of informing Congress, not to advocate for a particular policy outcome.

In recent years, financial innovation in capital markets has fostered a new asset class, digital assets, and introduced new forms of fundraising and trading. Digital assets, which include cryptocurrencies, crypto assets, or crypto tokens, among others, are digital representations of value.

The current regulatory landscape for digital assets is perceived by certain industry observers to be fragmented. Multiple agencies apply different regulatory approaches to digital assets at the Federal and State levels, regardless of the terms used to describe digital assets. Depending on their characteristics, some digital assets are subject to securities laws and the regulations that are designed to protect investors and maintain fair, orderly, and efficient markets, and facilitate capital formation. Others, such as Bitcoin and International Securities Services Association (ISSA), are not considered securities and, generally, not directly subject to those requirements.

The Securities and Exchange Commission is the primary regulator overseeing digital assets, securities offerings, sales, and investment activities. My testimony focuses on issues related to digital assets securities regulation.

Digital assets' increasing presence in capital markets raises policy questions regarding whether changes to existing laws and regulations are warranted, and if so, when such changes should happen, what form they should take, and which agencies should take the lead. The current innovative environment is not the regulatory regime's first encounter with changing technology. In the past, some technological advancements have led to regulatory revamps, whereas others were dealt with through the existing regime. Regulatory oversight generally strives to balance the need to foster financial innovation with objectives to ensure market integrity and investor protection as well.

In general, policymakers contending with major financial innovations have historically focused on addressing risk concerns while tailoring a regulatory framework that was flexible enough to accommodate evolving technology.

Current developments that raise policy issues include, first, digital asset exchanges. Some industry observers perceive digital asset trading platforms as functional equivalents to securities exchanges in buying and selling digital assets. These platforms are not subject to SEC regulation, potentially making them less transparent and more susceptible to manipulation and fraud.

Second, digital asset custody. Custodians provide safekeeping of financial assets. Digital assets present custody-related compliance challenges because custodians face difficulties in recording ownership, recovering lost assets, and providing audits, among other considerations.

Third, digital asset exchange traded funds (ETFs) are pooled investment vehicles that gather and invest money from a variety of investors. ETF shares can trade on securities exchanges like a stock. The SEC has not yet approved any digital asset ETFs because of market manipulation and fraud concerns.

Fourth, stablecoin. Stablecoin is a digital asset designed to maintain a stable value by linking its value to another asset or a basket of reserve assets, like Facebook Diem, formerly known as Libra and Tether. In policy discussions, some suggest applying ETF regulatory frameworks to certain stablecoins. Others argue for more disclosure of the underlying reserve assets to expose potential deceptive activities.

That concludes my testimony. I look forward to your questions. Thank you.

[The prepared statement of Ms. Su can be found on page 66 of the appendix.]

Chairman GREEN. Thank you, Ms. Su.

Ms. Goldstein, you are now recognized for 5 minutes to give an oral presentation of your testimony.

STATEMENT OF ALEXIS GOLDSTEIN, DIRECTOR, FINANCIAL POLICY, OPEN MARKETS INSTITUTE

Ms. GOLDSTEIN. Chairman Green, Ranking Member Emmer, and distinguished members of the subcommittee, thank you for inviting me to testify today. I am the director of financial policy at the Open Markets Institute, where my work focuses on financial regulation and consumer protection. Previously, I worked as a computer programmer at Morgan Stanley in electronic trading, and at Merrill Lynch and Deutsche Bank as a business analyst serving on the equity derivatives trading desks.

Earlier this year, the blowup of a single-family fund, Archegos Capital, led to $10 billion in bank losses after the firm's bets on about a dozen total return swaps imploded. Because these sorts of derivatives aren't currently reported to the Securities and Exchange Commission on Form 13F, banks and regulators alike were entirely in the dark about Archegos' positions until it blew up. The extent of hedge fund and family involvement in cryptocurrencies lives in a similar regulatory blind spot.

Chairwoman Waters, to her credit, has introduced discussion draft legislation to try and address some of these concerns with Form 13F, and I believe that Congress and regulators should also consider requiring that hedge funds report their cryptocurrency positions on this form. If a majority of hedge funds with billions of dollars in assets under management begin to hold significant positions in crypto, as certain surveys indicate they are interested in doing, it may produce dire risks for financial systemic risk, and it may induce future crises as volatile swings in the cryptocurrency markets could lead to things like forced liquidations of their assets.

In addition to hedge funds, large, too-big-to-fail banks and Silicon Valley venture capital firms are also a growing presence in crypto. Venture capital firms have already invested $17 billion in crypto firms so far this year, which is more than 3 times what they invested in all of 2020. If you combine this with the fact that some cryptocurrencies have a majority of their supply held by a very small number of people, it raises concerns around concentration. For example, as of February, the top 20 largest Dogecoin addresses held half of the cryptocurrencies' entire supply.

There are also broad investor and consumer protection concerns in cryptocurrency that I have personally observed as a user of crypto exchanges and DeFi platforms. In traditional financial markets, barring a serious liquidity crisis, if you buy something, you can generally assume you can sell it back, especially with a stock. But on DeFi protocols, like Uniswap and SushiSwap, anyone can upload a new cryptocurrency token, and anyone can add a liquidity pool for it, including malicious actors who design tokens that can be bought but never sold. These so-called honeypot tokens are so prevalent that some DeFi protocols include an explicit warning about them on their website. Some crypto investors try to read the smart contracts or code of new coins to look for common pitfalls and avoid scams, but this is an extremely high bar for non-programmers.

Some of the more concerning areas I have seen in DeFi are on platforms that offer derivatives. Frankly, it reminds me of the over-the-counter derivatives marketplace before the Dodd-Frank Act—I worked in as a banker in the late 2000s—with things like the U.S.-based dYdX, OPEN, which offers options on cryptocurrency, and Ribbon Finance, which offers structured products based on crypto. Recently, CFTC Commissioner Dan Berkovitz said in his speech that unregistered DeFi exchanges may not be legal under the Commodity Exchange Act.

I have also used a DeFi protocol called PancakeSwap, which often advertises very eye-popping annual percentage rates in exchange for locking a pair of cryptocurrencies into the platform's liquidity pools. Annual percentage rates (APRs) are probably not the right metric to attempt to use for what the crypto community calls yield farming, as the rates can vary wildly even on a single day.

But just to give you one example, in early May, PancakeSwap posted a tweet saying that you could get an over 100,000-percent APR if you locked in your Dogecoin on PancakeSwap. They later stated that special rate was only there for 13 days, which is questionable to use for an APR. Users complained that the rate offered was nowhere near what they were advertising on Twitter, yet they tweeted again the same day that, "The longer you wait, the less free money you get."

I believe that Congress should continue to examine if there are regulatory gaps that require new legislation in order to ensure consumer and investor protection in crypto and avoid systemic risk. Regulators should continue to monitor the space and ensure compliance with existing laws. Thank you. I look forward to your questions.

[The prepared statement of Ms. Goldstein can be found on page 38 of the appendix.]

Chairman GREEN. Thank you, Ms. Goldstein.

Ms. Parker, you are now recognized for 5 minutes to give an oral presentation of your testimony.

STATEMENT OF CHRISTINE PARKER, PARTNER, REED SMITH LLP

Ms. PARKER. Thank you. Thank you, Chairman Green, Chairwoman Waters, Ranking Member Emmer, and members of the subcommittee for the opportunity to appear before you today, and thank you to the subcommittee staff for their hard work in putting together this hearing. My name is Christine Parker, and I am a partner in the New York office of Reed Smith. I am actually joined today by my colleague, Trevor Levine, who was kind enough to brave the heat to come to D.C. with me.

My practice focuses on regulatory enforcement and transactional matters related to commodities, derivatives, and digital assets. I routinely advise both regulated and unregulated digital asset market participants in connection with a number of different Federal and State regulatory and prudential regimes.

At the outset, I want to note that there are a lot of use cases for blockchain and digital ledger technology, for which cryptocurrency serves as the fuel. I urge this subcommittee to engage with organizations that are working at the grassroots level to establish industry-sponsored, voluntary, self-regulatory associations for digital asset and crypto markets on both a global basis and at the national level, because I think there is a lot to be learned from them.

I also want to point out that if we are going to innovate how we regulate these new markets, it really calls for a new kind of financial regulator. At a minimum, we need financial regulators that reflect the diversity of retail investors who are active or want to become active in the crypto markets. As advocates for responsible innovation, I don't think the crypto industry has been very good at pushing forward diverse voices, but we can, and we should, and we will do better on that front.

However, we are here today to talk about the retail investors who are training in the crypto markets, and I know there has been a lot of focus on the recent volatility in these markets and what does that mean for Congress, for the regulators, and for retail investors.

Just a quick point: The volatility in the crypto markets, I think, is not solely attributed to their lack of regulation. I will point out that crypto exchanges, such as Gemini and Coinbase, are not regulated like the Chicago Mercantile Exchange or the New York Stock Exchange, but they are regulated by the New York Department of Financial Services as limited purpose trust banks. They are subject to the same Anti-Money Laundering (AML) and Know Your Customer (KYC) requirements as any other Federal- or State-regulated bank, and the Commodity Futures Trading Commission (CFTC) has anti-fraud and anti-manipulation authority over the purchase or sale of Bitcoin in spot and forward trades on these trading markets, and has actively used that authority in this space.

Separately, volatility is not unique to the crypto markets. Last April, the crude oil market went negative, and in February, natural gas markets were incredibly volatile due to Winter Storm Uri.

And there are products that are offered on CFTC-regulated exchanges that are available to retail customers that are based on market volatility, so some investors are actually seeking out assets that are based on volatility on these very highly-regulated exchanges. That being said, the question that we are really grappling with today is, how do we best protect retail customers who are actively trading in the crypto markets?

I think it is somewhat problematic to just sort of simply equate the crypto markets with terrorism, tax evaders, and bad actors. Realistically, every member of this subcommittee has a law-abiding constituent who enjoys trading crypto, so what is in the best interest of this constituent of yours who is trading crypto right now? Access to crypto markets that operate under a clear regulatory framework with both customer protection mandates and opportunities for risk that are commensurate with the suitability of the investor is necessary.

Right now, we have an absurd patchwork of regulatory regimes at both the State and Federal level. We have regulation by enforcement, interpretation, guidance, interpretive guidance, and public statements from regulators. One regular trader says that a crypto asset is a currency, another says it's a security, and the outcome of that is incredibly harmful to retail customers. This lack of clarity stifles innovation in the U.S. and, frankly, drives retail customers to foreign exchanges. So, how do we better regulate cryptos?

The CFTC and the SEC should be empowered by Congress to move quickly to provide retail investors with a broader array of regulated crypto products that are attractive to market participants, but come with the robust market oversight of these regulatory regimes. This should happen now.

First, Congress should direct the SEC to immediately create clear, workable criteria as to which digital assets are securities and, therefore, subject to U.S. securities laws and regulations.

Second, while regulators in New York and Wyoming, in particular, have been very crypto-forward regulators and will continue to be leaders in this space, Congress needs to pass legislation to provide for the Federal preemption of the current State-by-State licensing requirements of the direct purchase and sale of cryptocurrency. This will ensure that these transactions are subject to the level of market oversight that we currently have in the futures and securities markets. The logical regulator here is the Commodity Futures Trading Commission, but you must ensure that you fully fund them so they can take on this mandate.

Thank you for the opportunity to speak today, and I look forward to your questions.

[The prepared statement of Ms. Parker can be found on page 59 of the appendix.]

Chairman GREEN. Thank you, Ms. Parker.

Ms. Hammer, you are now recognized for 5 minutes to give an oral presentation of your testimony.

STATEMENT OF SARAH HAMMER, MANAGING DIRECTOR, STEVENS CENTER FOR INNOVATION IN FINANCE, THE WHARTON SCHOOL, UNIVERSITY OF PENNSYLVANIA

Ms. HAMMER. Chairman Green, Ranking Member Emmer, and members of the subcommittee, thank you for the opportunity to testify today. My name is Sarah Hammer. I am managing director of the Stevens Center for Innovation in Finance, and senior director of the Alternative Investments Program at the Wharton School of the University of Pennsylvania. I also oversee the Blockchain Laboratory within the Stevens Center at Wharton. Additionally, I am an adjunct professor of law at the University of Pennsylvania Law School, where I teach an upper-level juris doctor course on financial regulation.

Before I proceed, I would like to note that the views expressed here today are my own and not the views of the Wharton School or the University of Pennsylvania.

Blockchain is a shared immutable ledger that facilitates the recording of transactions in a network. Today, blockchain technology infiltrates and powers a myriad of institutions, functions, and assets in the United States and globally. The use cases for blockchain are too numerous to cover in detail here, but they include decentralized finance, enterprise blockchain, cybersecurity enhancements, and even addressing climate change.

The subject of today's hearing is cryptocurrency. At the outset, it is worth noting that there is no official public data source for cryptocurrency prices, market size, or volatility. This lack of data is a significant problem. However, unofficial data sources have estimated that the total value of the cryptocurrency markets may exceed $2 trillion. Investors in cryptocurrency include retail, high-net-worth, and institutional investors, such as private funds corporations, and endowments. Retail investment in cryptocurrency may give rise to particular concerns about investor protection, given the possibility of fraud or business failure, the lack of disclosure, and the high level of price volatility.

The Securities and Exchange Commission is charged with a tripartite mission of protecting investors; maintaining fair, orderly, and efficient markets; and facilitating capital formation. At the same time, the SEC faces challenges in applying capital markets and securities regulations to cryptocurrency. Chief among these challenges is whether the SEC has the authority to regulate a particular instrument.

Currently, the SEC evaluates crypto sales through the lens of a test known as the Howey test, which evaluates whether an instrument qualifies as an investment contract for the purposes of the Securities Act. While the SEC has applied securities regulation to dozens of initial coin offerings based on the Howey test, there is still a lack of clarity as to whether it applies to a number of crypto transactions that currently do not comply with SEC registration and disclosure obligations. In addition, a number of exchanges that offer trading and crypto, including those that meet the definition of a, "security," do not register with the SEC. Given this, there is a strong need to establish a clear, sufficient, and appropriate regulatory framework for cryptocurrency.

I turn now to the issue of systemic risk. As discussed, the value of the cryptocurrency market is estimated to possibly exceed $2 trillion, and it is characterized by very high levels of price volatility. Additionally, estimates are that more than 2,000 different cryptocurrencies currently circulate globally. For context, estimates of subprime debt prior to the great financial crisis are less than $1 trillion.

Moreover, since no official data source exists for crypto markets, financial regulators are at a distinct disadvantage in evaluating their regulatory options. Because of the infiltration of crypto into so many institutions, functions, and assets, the potential risks must be carefully evaluated in a coordinated fashion.

In light of the risks and considerations of crypto, a myriad of agencies, States, and international standard-setting bodies are implicated. Thus, a key question for regulation is, how should we proceed and in what forum?

Importantly, a government authority already exists that could support the development of a clear, sufficient, and appropriate framework for regulation of crypto. Established in 2010 by the Dodd-Frank Act, the Financial Stability Oversight Council (FSOC) is the appropriate forum to engage in evaluating and addressing potential systemic risks, convening and coordinating Federal rulemaking on issues that touch multiple agency jurisdictions, and consulting with State and foreign regulatory authorities. I believe that by leveraging the authorities of the FSOC to support the development of a clear, sufficient, and appropriate framework for crypto, we can address concerns about fostering innovation, providing consistency, establishing global reach, and balancing our regulatory objectives. Thank you.

[The prepared statement of Ms. Hammer can be found on page 51 of the appendix.]

Chairman GREEN. Thank you, Ms. Hammer.

Mr. Van Valkenburgh, you are now recognized for 5 minutes to give an oral presentation of your testimony.

STATEMENT OF PETER VAN VALKENBURGH, DIRECTOR OF RESEARCH, COIN CENTER

Mr. VAN VALKENBURGH. Chairman Green, Ranking Member Emmer, members of the subcommittee, thank you for the invitation to speak with you today. My name is Peter Van Valkenburgh. I am the director of research at Coin Center, which is an independent nonprofit that is focused on cryptocurrency public policy.

The Bitcoin network has been processing transactions for longer than Uber has been offering rides. Bitcoin and other cryptocurrencies have enabled 3.1 billion transactions in the last 10 years, securing over $2 trillion in value. If cryptocurrencies were unregulated to this day, would that not be an incredible failure of our regulatory system?

As I will outline, it is not a failure, because over the last 10 years, cryptocurrencies have been regulated. Some of that regulation, of course, does come from the technology itself. The scarcity of Bitcoin, a total supply of only 21 million, is not preserved by the goodwill and honesty of the participants on the network. It is secured by a transparent, peer-to-peer accounting technology, a public blockchain that makes fraud trivially cheap to detect and absurdly expensive to commit.

But much regulation has also come from the Federal and State Governments. The onramps and offramps where people buy and sell Bitcoins for dollars and safekeep them are heavily regulated. They are State license money transmitters or else they are chartered banks and trust companies. Before offering any services to Americans, they must prove minimum capital requirements, post bonds, and open their doors to yearly examinations. They are also classified as financial institutions under the Bank Secrecy Act. They must register with the Financial Crimes Enforcement Network (FinCEN), know their customers, and share the details of suspicious activities with law enforcement.

Cryptocurrencies like Bitcoin and Ethereum are commodities, but many crypto assets meet the flexible definition of an, "investment contract," and are, therefore, securities, which means their issuance and their trading are regulated by the SEC. Cryptocurrency derivatives are regulated by the CFTC. Finally, anyone who markets a cryptocurrency service or tool that is deceptive or fraudulent is liable under various laws enforced by the CFPB, the FTC, the SEC, the CFTC, and State attorneys general.

And the results of all of this regulation speak for themselves. In 2020, only 0.34 percent of all cryptocurrency transaction volume involved a criminal sender or recipient. Despite several high-profile hacks of overseas exchanges, no American exchange has suffered a substantial hack or loss of consumer funds. Operators of money laundering exchanges overseas have been arrested, sales of unregistered tokenized securities have been targeted by SEC enforcement, and criminal ransomware rings have had their servers seized and their ransoms recovered. All of this has happened by sensibly applying existing laws to the cryptocurrency space. We don't need new regulations.

And all of this has also happened while preserving the fundamental value of cryptocurrencies as open access platforms for financial services and innovation. Unlike any other transactions technology that works online, an open blockchain network is accessible to people that banks and tech companies would rather ignore than serve. With the rise of central bank digital currencies from authoritarian nations happening in tandem with the rise of Bitcoin, we are at a decision point as an advanced technological society. Are we willing to accept some risks if it means we can eliminate the choke points to economic participation that further inequality and stifle innovation, or would we prefer to strengthen those choke points and outlaw alternatives in the hopes that a powerful elite will smartly choose who should and should not have access to powerful tools and volatile markets?

For every transaction that we want blocked, there is another transaction we should celebrate for being unstoppable. Yes, there are some criminals making payments on the Bitcoin network because banks won't bank them. There are also pro-democracy activists in Belarus and anti-police violence protesters in Nigeria taking donations on the Bitcoin network because local banks won't bank them. Nonprofits like Bisol and the Feminist Coalition in Nigeria raised millions of dollars in Bitcoin donations last year, donations they were forbidden from accepting by a corrupt or otherwise uncaring banking sector in their respective countries.

In America, we don't always agree, but no matter what, we are tolerant and expect everyone to have the opportunity to stand up and fight for their own vision of the good. Crypto innovation embodies that aspiration. It is rough around the edges but holds some values above all: every node is an equal; no one's voice should be censored; and work, rather than privilege, is what counts in consensus. Thank you.

[The prepared statement of Mr. Van Valkenburgh can be found on page 79 of the appendix.]

Chairman GREEN. Thank you, Mr. Van Valkenburgh.

I now recognize the Chair of the Full Committee, the gentlewoman from California, Chairwoman Waters, for 5 minutes for questions.

Chairwoman WATERS. Thank you very much, Mr. Green. Ms. Goldstein, earlier this year, PricewaterhouseCoopers released their third annual survey of hedge funds in the cryptocurrency market. According to the survey, cryptocurrency currently accounts for 10 to 20 percent of all assets under management for 1 in 7 hedge funds. Over 60 percent of the hedge funds surveyed expressed a desire to start investing in cryptocurrencies or to accelerate their existing investments in cryptocurrencies by the end of 2021. Hedge funds often manage funds on behalf of mutual funds, pension plans, and other institutional investors which affect millions of regular consumers and investors.

Ms. Goldstein, do you see any systemic risks associated with hedge funds investing heavily in cryptocurrencies? And I am more interested in this, having just listened to the last presenter who talked about the choke point that we should not be so concerned about. What do you think?

Ms. GOLDSTEIN. Thank you, Chairwoman Waters, for the question. I am very concerned about the presence of hedge funds and cryptocurrency. I think we have seen with the Archegos meltdown this year that when banks have prime broker relationships with hedge funds or family funds, as Archegos was, who are doing risky things, it can redound to the taxpayer-backed financial system. Credit Suisse lost billions of dollars. All of the banks lost some $10 billion. If hedge funds get further into crypto, they don't care about direction. They will go long. They will go short. They can use leverage. There are lots of cryptocurrency exchanges like FTX, and Binance, and many others that allow people to use insane amounts of leverage, 100 times to 1, and hedge funds are the perfect client to use those sorts of leverage.

So what happens if a huge number of hedge funds, who have prime broker relationships with too-big-to-fail banks, all happen to be in similar crypto positions, whether it is long or short, and there is massive volatility in the market? They may have to sell some of their other assets. It may lead to margin calls in their non-crypto assets, which could lead to forced liquidations and sort of redound to the banks themselves in the form of counterparty risks. So, I think—

Chairwoman WATERS. Let me ask you, are there any reporting requirements hedge funds must comply with that would provide regulators and the general public more transparency regarding which hedge funds are most heavily invested in cryptocurrencies, and which of these institutional investor counterparties may also be exposed to potential risk?

Ms. GOLDSTEIN. Madam Chairwoman, there are not, to my knowledge, because cryptocurrency is not currently reported on the Form 13F. It is not seen as an ownership interest, so regulators are essentially totally in the dark about what hedge funds' cryptocurrency positions are, and, I suppose, have to rely on the financial press or trying to figure out, based on the transactions on the blockchain and de-anonymize certain addresses and figure out who are the hedge funds. But there is no formalized way for regulators to know how much hedge funds are in crypto.

Chairwoman WATERS. Ms. Hammer, you just spoke to this issue somewhat. Would you give me your knowledge about what kind of oversight do we have now, what agencies have, what responsibility, and what should we have?

Ms. HAMMER. Chairwoman Waters, thank you for your question. I, too, have concerns about crypto trading by private funds, and one of the key issues, as I discussed in my opening statement, is transparency and the availability of data. In the crypto markets, we have no official public source for data. Investors are operating based on online websites. There are sometimes disparities over prices and interpretations of what volatility may be.

And in some ways, it harkens back to credit default swaps prior to the great financial crisis. That was a market that was traded almost exclusively over-the-counter and highly unregulated. When the great financial crisis hit, we saw that credit default swaps exacerbated the risks, but once we regulated them and instituted central clearing counterparties, we had an official data source and an oversight regulator such that we could identify where the risks lay. I think the same is true for crypto.

And, as Ms. Goldstein said, the issues related to leverage and whether it is appropriate or not for some of these assets are extremely important. I do believe that, at a high level, the authority of the FSOC to convene, to coordinate the regulators is crucial because we are talking not just about markets issues or private fund issues. We are talking about crypto within banks. We are talking about crypto within insurance companies and other non-banks, and that can implicate taxpayer dollars in a number of different ways.

So, in our system, the FSOC can convene to coordinate those authorities to work together.

Chairwoman WATERS. Thank you very much. I yield back the balance of my time.

Chairman GREEN. The gentlelady yields back.

The Chair now recognizes the ranking member of the subcommittee, the gentleman from Minnesota, Mr. Emmer, who also serves on our FinTech Task Force, for 5 minutes.

Mr. EMMER. Thank you, Mr. Chairman. This is interesting following on the testimony, the questions we just heard. Mr. Van Valkenburgh, let's start with this idea that there is a need for regulation. When people promise investors wild profits from proposed new digital tokens in an initial offering, is that regulated?

Mr. VAN VALKENBURGH. A promise of future profits reliance on the issuer's efforts is basically the Howey test. It is how we classify things as investment contracts, and so the SEC would probably treat those offerings in all cases as securities. They regulate issuance and trading.

Mr. EMMER. Let me keep going. I want to come back to that one, because I want to talk about what the SEC would probably do and why that is a problem. When people make bets, again, Mr. Van Valkenburgh, on the future price of cryptocurrencies or trade with leverage, as we heard referenced, is that regulated?

Mr. VAN VALKENBURGH. That is on the future price of an underlying commodity of swaps or futures. These are commodities derivatives, and the CFTC has jurisdiction over that kind of trade and those markets.

Mr. EMMER. So, yes, it is regulated.

Mr. VAN VALKENBURGH. Yes.

Mr. EMMER. Can companies sell and transmit—and this probably goes to the first bit of testimony—cryptocurrency without identifying their customers? Is that regulated?

Mr. VAN VALKENBURGH. That is heavily regulated, and while Representative Sherman said that the one advantage of this is avoiding KYC, I have to argue that every U.S. exchange is Bank Secrecy Act (BSA)-regulated. They have to know their customers, and file suspicious activity reports, and this has been the case since at least 2013.

Mr. EMMER. So, the prices of cryptocurrencies, like Dogecoin, have been quite volatile and seemingly susceptible to influence by statements from persons and groups, maybe even manipulated, as was suggested by one of the opening statements here today. Is that regulated, Mr. Van Valkenburgh?

Mr. VAN VALKENBURGH. As an open source, open network cryptocurrency, Dogecoin likely does not qualify as a security. To the extent that line is unclear, Congressman Emmer, you introduced excellent legislation last Congress that was bipartisan and co-sponsored by Representatives Soto and Khanna, that would help clearly delineate that line between securities and commodities. But if we assume today that Dogecoin is a commodity, it is still a regulated commodity for various purposes. Specifically, in the manipulation context that you raised, the CFTC has the duty to investigate and prosecute manipulation, including at commodity spot markets under their Commodity Exchange Act (CEA) authority, Section 6(c)(1), which the Dodd-Frank Act added to the Commodity Exchange Act.

As SEC Chairman Gensler recently testified, there is, in some ways, a gap here, because unlike traditional commodity spot markets, which are like cattle auctions—I am buying a commodity from you, you are selling it to me—these markets have much higher volumes and a lot more retail participation. So accordingly, it may be appropriate to extend market supervision to these entities.

Another reasonable approach that I think would follow Chairman Gensler's recommendations is another piece of legislation that you introduced last Congress, the Digital Commodity Exchange Act—I'm sorry, former Representative Conaway introduced the legislation, but you co-sponsored it. And for that, we are grateful because it would create a reasonable guardrail-based approach to market supervision for places where people are trading these commodities, even at the spot market level.

Mr. EMMER. I would add that I also introduced the Securities Clarity Act, which provides clarity for the SEC on token issues to swiftly determine when and if a token is a security. In the short time we have left, I believe that we do have the regulatory framework, the laws in place. People in this country don't get to run under the radar if they are not complying with KYC and all of the other regulations that are out there.

Would you agree, Mr. Van Valkenburgh, that the real issue here is, while we can do some work perhaps as Congress on the margins to clean up some of this, the real issue is that the application of existing regulation and laws has not been consistent, and there has been little enforcement in terms of court decisions or things that can give us precedent so people in this area know what is right and what is wrong?

Mr. VAN VALKENBURGH. I think that is right. There is a certain wisdom to our flexible and open standards for investor protection in this country, like our securities laws that have these broad and flexible standards. However, they only work if controversies end up in court and judges make clear rules about new application of those laws. And one thing we have seen is a replacement of a lot of decisions made by judges acknowledging the interest of the parties, with administrative guidance that is not always as clear as it could be. But the underlying laws are sound and should be applied.

Mr. EMMER. Thank you.

Chairman GREEN. The gentleman's time has expired.

The Chair recognizes the gentlewoman from North Carolina, Ms. Adams, for 5 minutes.

Ms. ADAMS. Thank you. Thank you, Chairman Green, Ranking Member Emmer, and Chairwoman Waters for holding the hearing today. To our witnesses, thank you as well.

Ms. Parker, there is a great deal of interest from both the public and from Members of Congress with respect to the current regulatory framework overseeing cryptocurrencies. So, as the Vice Chair of the House Agriculture Committee, I have heard plenty of discussion from my colleagues about not only who should regulate cryptocurrencies, but how they should regulate these entities. As you alluded to in your statement, many of these discussions have centered around the roles of the SEC and the CFTC. So, how are cryptocurrency markets currently regulated in the U.S., and is this level of oversight and regulation sufficient protection from the attendant risk posed?

Ms. PARKER. Thank you. That is an excellent question, and sort of like you, I come from the commodities world when I am looking at these markets, and Bitcoin and Eth are the two tokens that have a very clear regulatory framework. They are commodities. And so at the spot level, the cash level, the CFTC has generally not been active in that space in terms of the robust market oversight that they provide to their futures exchanges, and that is just because of the function of the commodity markets. They sort of arose from commercial entities coming together to buy and sell their pork bellies and orange juice concentrate, and wheat, and corn, and soy. And so, those markets—we don't really have established treating spot markets for physical commodities or any form of commodities. So, Bitcoin is sort of a novel application as an intangible physical commodity. It is sort of a novel application of these laws and these systems that have existed for almost 100 years.

What I would recommend, what I think makes sense is that since the CFTC is a very sort of robust and experienced market regulator, I think it makes sense to draw digital asset spot products. I am not talking about other physical commodities, I am not talking about financial commodities, just digital asset spot commodities. I think it makes sense to pull them into the CFTC's market oversight framework and apply those market conduct and market surveillance requirements that are imposed on the CME and ICE to these spot markets because they—

Ms. ADAMS. Thank you, Ms. Parker. I want to move on, if I can.

Ms. PARKER. Yes.

Ms. ADAMS. I am trying to get another question in, but thank you so much.

Ms. Su, let me pivot to focusing on consumer protections. In my opinion, we have spent too much time over the past few years focusing on what happens on Twitter, but when it comes to cryptocurrency volatility, Twitter has been front and center. In January, we watched Bitcoin, with each Elon Musk tweet, fluctuate in the months thereafter, so let me ask you, what are the most concerning risks to investors in the marketplace, and how can those risks be mitigated most effectively by regulators? Ms. Su?

Ms. SU. Yes, thank you. I think from an investor protection perspective, if you look at capital markets-related concerns, there are three groups of primary risks we consider. Market volatility, as you highlighted, is definitely front and center, but the traditional way to handle it is through disclosure and investor restrictions. By that we mean you provide material information about the risk so investors would go into risk taking in an informed way so they would price the risk accurately. Similarly, with investor protection regarding restriction, if you deem the instrument to be highly volatile and highly risky relative to the risk tolerance and the financial cushion certain individual investors have, you may exclude those investors from such investments.

Ms. ADAMS. Okay.

Ms. SU. There are other risks related to fraud and scams, so obviously, you handle it through rulemaking, enforcement, reporting. And then the third category, which people usually don't pay particular attention to, is safekeeping functions, like the lost password. I think you are probably generally aware that about 20 percent of a certain digital asset was lost due to the lost key—

Ms. ADAMS. Yes, ma'am.

Ms. SU. —and custodian. Yes, custodian service, remedy that.

Ms. ADAMS. Thank you, ma'am. Thank you very much. I am out of time, and, Mr. Chairman, I am going to yield back.

Chairman GREEN. The gentlelady's time has expired.

The gentleman from Georgia, Mr. Loudermilk, is now recognized for 5 minutes.

Mr. LOUDERMILK. Thank you, Mr. Chairman, and thanks to the panel for being here. It is a very important hearing we are having here today, and I think it is something we need to be looking at. But one of the aspects of being here is that a lot of times, people draw a line in the sand very early on, and they take an early position on something, especially when it is dealing with technology, because it is something they either don't understand or there is this fear factor. And I have seen that with cryptocurrency, because a lot of times, we don't see the forest for the trees. And in this case, I think there is something that we miss out on because we have either decided we are for or against cryptocurrency, and that part we are missing out on is the blockchain technology that is underlining, which I think is very valuable for us in this nation, especially in the Federal Government.

And I have been advocating for a long time that we utilize, or at least we look very strongly at using blockchain technology as a solution to our cybersecurity issues here in this nation. When you consider the Federal Government—and we know that we have had cyberattacks—there has been loss of data and people's personal data has been inadvertently disclosed, which caused a lot of issues. That isn't that hard to do when you consider at how many points my personal information and others' personal information resides within the Federal Government. There is duplication of data in every place. My Social Security number, my date of birth, my address, phone number, all of this resides in another system that is susceptible to attack. And all it takes is one weak link, and then you have exposed it.

If you look at it as a veteran, my information is at the VA. From years of working in business, it has been with various departments, the Social Security Administration, you name it, the IRS—if you look at all of the different databases, I did a count one time, and there could be 47 different data points where just my information would reside, and all it takes is the breach of one of those. Because of the decentralization of blockchain, it seems to me, that may be the solution to the cybersecurity problems that we have in this nation.

Ms. Hammer, is this something that you would agree with, and can you describe how the blockchain technology could be used to enhance cybersecurity?

Ms. HAMMER. Congressman, thank you for that excellent question. I appreciate the chance to talk about the potential benefits of blockchain technology. It is absolutely something that I would agree with and certainly something that we work with on a day-to-day basis at the Stevens Center at Wharton. As you mentioned, blockchain is a decentralized technology, and that is key because it has no single point of failure, so there are many different uses for the technology, in addition to cryptocurrency. With each new block in blockchain, the previous blocks are stored, and this creates a fully traceable history log, so it can potentially have many cybersecurity applications. Blockchain can, therefore, be used to create security profiles for user data, such as you mentioned, and it protects the data by decentralizing it.

In addition, blockchain technology incorporates something known as public key and private key security. Public key infrastructure, much like an email address, can be used to authenticate and authorize parties. And private keys can be combined with it for end-to-end security and encryption of our data. Blockchain can be used for many different means in cybersecurity. It can decentralize security devices, such as a home security system, to discourage hackers. It can protect websites by decentralizing domain name servers, such as separating an IP address from a name. And it can be, in fact, combined with other security protocols, like biometrics, in order to strengthen our cybersecurity options. So, I fully agree there are many applications for blockchain technology, and it is important for us to remember that this is the technology that powers crypto. But the technology itself also has many applications, and we would behoove ourselves to consider those innovative possibilities.

Mr. LOUDERMILK. And that is the challenge I have had, is separating what some will consider the stigma of cryptocurrency from blockchain. In the remaining time, I have one other question. Do you have concerns with a potential central bank digital currency?

Ms. HAMMER. Thank you, Congressman, for that excellent question. I know that central bank digital currency has been the subject of other hearings in this forum, and certainly it is something that is being studied really across the country by many different academics and not-for-profits. I think it is important to consider that central bank digital currency could take many different forms. It could be blockchain-powered. It could be not blockchain-powered and run along a traditional database system such as we do currently. There are concerns about central bank digital currencies. Some of them relate to issues around privacy and whether it actually achieves the objective of having a central bank digital currency because, rather than a decentralized system, which cryptocurrency is or blockchain is, having a central bank digital currency would concentrate our private information and, therefore, could potentially be a target for hackers. At the same time, I recognize—

Chairman GREEN. The gentleman's time has expired. Would you kindly give the rest of your answer in writing and submit it for the record?

Ms. HAMMER. Absolutely. Thank you.

Chairman GREEN. Thank you very much, and when I have my time, I may give you the opportunity to finish with my time.

The gentlewoman from Georgia, Ms. Williams, the Vice Chair of the subcommittee, is now recognized for 5 minutes.

Ms. WILLIAMS OF GEORGIA. Thank you, Mr. Chairman. My top priority in Congress is ensuring that those most marginalized remain at the center of our policy considerations. When it comes to digital assets, this means making sure that investors of all experience levels have equitable access to information about the digital asset that they are investing in.

Ms. Hammer, how can regulators best communicate with all consumers, especially those who may be investing for the first time, about any risk associated with investing in digital assets and ways to avoid predatory behavior in the market?

Ms. HAMMER. Congresswoman, thank you for that excellent question, and, as I mentioned in my oral testimony, investor protection is a key concern and priority when we think about cryptocurrency. And I return to what I recommended in terms of coordinating Federal agencies because investor protection, consumer protection, and even ERISA in the Department of Labor are implicated when we think about investing in these markets. Not every investor is the same. Investors have risk profiles. They have different periods of time that they can invest in, and not every asset is appropriate for every vehicle.

Today, we are seeing cryptocurrency being introduced into things like retirement funds. We are seeing the rise of cryptocurrency amongst younger investors through different applications. And so, I do feel strongly that: number one, coordination through the FSOC, through the Federal financial agencies is extremely important both from a consumer protection perspective and investor protection; and number two, that we have the data and the resources to evaluate what is happening in the market. Without an official public data source, I think that we are a little bit in the dark about what the proper regulatory framework should look like.

Ms. WILLIAMS OF GEORGIA. Thank you. It is important that we ensure consumer protection when it comes to digital assets, but we also have to be sure that we are protecting the health of the broader economy as the use of digital assets expand. So, Ms. Hammer, more on this. Given that digital assets can change rapidly in value, are there legislative considerations that Congress should keep in mind to ensure any risk to the broader economy is minimized as investment expands in these assets?

Ms. HAMMER. Thank you, Congresswoman, for that question as well, and I do believe systemic risk is a key concern. I do believe that the Financial Stability Oversight Council is the proper authority to consider systemic risk. Under Section 120 of the Dodd-Frank Act, it actually has a specific mandate to do so. The fact is that cryptocurrency has really infiltrated many different aspects of our financial system, and regardless of what we may think the benefits and costs of that may be, it is the reality today. Not only do investors hold crypto in their individual portfolios, but we see it in private funds, as Ms. Goldstein mentioned. We see it in banks. We have permitted banks to serve as custodians. We have national trust banks that are operating as crypto companies, and we have 50 different States that are looking at a myriad of crypto rules. I think at last count, 31 States were actually looking at crypto legislation in the current session, so this level of activity can be useful if it is innovative, but I think the key thing is that we have a race to the top and not a race to the bottom. And there are some things that should be regulated on a Federal level.

As far as what a specific legislative mandate would look like, I think that is to be determined after substantive study by the FSOC, after we have established some public data sources and there is clear coordination amongst the agencies.

Ms. WILLIAMS OF GEORGIA. Knowing that we need more research and investigation around this, I am thinking more along the lines of some of my priorities in Congress, which are ensuring consumer protection and the benefits to financial inclusion for more people. So, are there any considerations that you have in mind for Congress that specifically speak to those two areas?

Ms. HAMMER. Thank you, Congresswoman, for that point as well. I think the issue of financial inclusion is crucial when we think about crypto. As we digitize our economy, the reality is that some people may be included more and some people may be included less, and I tend to think globally, because that is the kind of research that we do at The Wharton School. When I think about financial inclusion globally, there are 1.7 billion people who are unbanked, and two-thirds of them do have mobile phones. Now, that may differ from what we have in the U.S. I think that having legislative priorities around consumer protection related to these assets would be important, but I also think that clarity in that space and international coordination is key because the technology, going back again to the uses of the technology, has many beneficial functions for others in other areas who may not be so lucky to have stable currencies. They may be subject to political and economic instabilities that make using crypto an important method for them to run their businesses and to support their families.

Ms. WILLIAMS OF GEORGIA. Thank you, and my time has expired.

Ms. HAMMER. Thank you.

Chairman GREEN. The gentlelady's time has expired.

The Chair now recognizes the gentleman from Tennessee, Mr. Kustoff, for 5 minutes.

Mr. KUSTOFF. Thank you, Mr. Chairman. Ms. Hammer, if I can continue with you just briefly, I know that you were not finished answering Mr. Loudermilk. Was there anything you wanted to say in conclusion to his questioning?

Ms. HAMMER. Thank you so much, Congressman. We were discussing central bank digital currency (CBDC), and I wanted to acknowledge that there may be privacy concerns around central bank digital currency, but emphasized that there are many different iterations the technology can take. And I think, going back to some of our earlier discussion, one of the key priorities that we focus on in our work related to Fintech and blockchain at the Stevens Center is financial inclusion. And so, when I think generally at a very high level about CBDC, I believe that is a focus that we should continue with, and it is an important topic of discussion related to crypto as well. Thank you.

Mr. KUSTOFF. Ms. Hammer, if I could, along those lines, Vice Chair Quarles of the Fed, I believe on Monday, I am going to characterize, expressed some skepticism about central bank digital currency. My question to you is, and we have talked about innovation and about stifling innovation, do you personally have concerns if we move slowly, and, say, the Chinese accelerate? Can you play out what happens over 12 months, 24 months, 5 years?

Ms. HAMMER. Thank you, Congressman, for that question, and I know it is an important topic for all of us as we think about CBDC. To be honest, I don't have any particular expertise on China and our policy as it relates to China. I would say that one of the things that I think is valuable about thinking about blockchain technology generally and CBDC as it may relate, is how it can improve our financial infrastructure and our financial system. We live in a world today where it takes days to clear and settle a payment. We live in a world where we have intra-day between counterparties who are trading. We have an antiquated central clearing counterparty system that is in need of a revamp in some ways. And so, I believe that we should be doing everything we can to modernize our system, and that we should be taking advantage of the available technologies.

The key thing, from my perspective, is regulatory clarity. I think that clarity is required for businesses to innovate. I see it every day in some of the companies that we work with. For a company to develop a product, or create a go-to-market strategy, or raise money, they need clarity in the law, and this is an area where they just don't have it on particular issues. So, my belief is that we should be working in a coordinated fashion to provide that.

Mr. KUSTOFF. Thank you, Ms. Hammer.

Mr. Van Valkenburgh, inflation is a concern for people across the country, certainly in my district in West Tennessee. In an interview recently, you talked about or you advocated essentially that a consumer may want to buy Bitcoin because it could be a way to balance an investment portfolio against the threat of inflation. Could you expound on that, please?

Mr. VAN VALKENBURGH. Sure. So, the intuition here is fairly straightforward. Bitcoin is the world's first digital commodity, and it functions rather like gold, except it is gold that you can send peer-to-peer over the internet. Now, as to the wisdom of any particular investment in a portfolio, I think most people agree that diversity is how we can achieve greater financial stability for ourselves and for our major institutions. And so, my point in that previous interview was simply that, as part of a diversified portfolio, one might be interested in owning some Bitcoin, along with some gold, along with some stocks—American industries, overseas industries—in order to achieve some balance and hedge against the risk of inflation should we see it being pronounced.

Mr. KUSTOFF. And you may have answered this, but would you advocate that strategy, for lack of a better word, for the average retail investor?

Mr. VAN VALKENBURGH. I think we have guardrails in place now for these Bitcoin spot markets, for example, that make that a safe bet as long as we have good investor education, which is always a perennial problem. But if you go to the right places, the American-run companies, they are State-licensed money transmitters, they are New York Department of Financial Services-chartered banks and trusts. And these are safe places where a customer will be given clear information about what they are buying from a person who has posted a bond, can prove minimum capital requirements, and has a robust regulatory structure around them to ensure investor protection.

Mr. KUSTOFF. Thank you, sir. I thank you, I thank the other witnesses, and I yield back.

Chairman GREEN. The gentleman yields back.

The Chair now recognizes the gentlewoman from Michigan, Ms. Tlaib, for 5 minutes.

Ms. TLAIB. Thank you so much, Mr. Chairman. We all know that cryptocurrency like Bitcoin currently consumes enough energy to power a small nation, and the Cambridge Bitcoin Electricity Consumption Index is one of the most-cited cryptocurrency energy estimates. Right now, estimates sit actually at an annualized consumption of 66.14 terawatt hours. That is actually around a third of the energy consumption of Facebook, Google, and Amazon's data centers combined. But due to the decentralized nature of cryptocurrency, even the Cambridge model is just a small—not a precise estimate, and their upper bound is probably as high as 150 terawatt hours each hour. As Bitcoin miners compete against one another for increasingly scarce tokens, energy usage increases.

Mr. Van Valkenburgh, how can we better measure the energy consumption and energy resources of cryptocurrency to account for its carbon footprint?

Mr. VAN VALKENBURGH. I agree that the Cambridge data is our best shot right now at looking at this question. What we have the benefit of is knowing everything that the peer-to-peer ledger tells us. It is shared and open. It is not a proprietary standard from a corporation. And the peer-to-peer ledger shows us how much work these miners are performing to make sure that transactions get in blocks and they are not censored by some third party or some government that wants to coerce certain transactions or block certain transactions. It is this vibrancy between miners that guarantees that the miners cannot form a cartel and choose to systematically exclude certain persons from this financial system. When you have them compete and when you have evidence of their competition in the form of proof-of-work calculations on a public ledger that any person can audit independently, you get that censorship resistance. As far as energy usage—I'm sorry.

Ms. TLAIB. No, go ahead. I need to get to my next question, because I really want to talk about the carbon footprint.

Mr. VAN VALKENBURGH. Okay. I will be brief. I'm sorry. So as far as energy usage, it is worth noting that the traditional financial sector uses an estimated 5 times more energy than Bitcoin. Now granted, the traditional financial sector moves more money, but it is worth noting that Bitcoin energy usage does not scale per transaction, so most of the costs are the fixed costs of setting up an open peer-to-peer system that is robust, and we have technologies like the Lightning Network that can bundle millions of transactions into that existing system without a meaningful increase in energy. So, it is possible we can have an open financial system that is censorship-resistant using one-fifth of the energy of the current financial system, if we were to eventually move more transactions—

Ms. TLAIB. Sure. Thank you. Ms. Goldstein, is cryptocurrency fundamentally incompatible with a carbon-neutral future?

Ms. GOLDSTEIN. Congresswoman, thank you for the question. I think it depends. It depends on the cryptocurrency. It depends on which system it uses for validation. So, proof of work, I would argue, is the most carbon-intensive of the validation systems in cryptocurrency. This is the one that Bitcoin uses, this is the one that Ethereum currently uses, but it is trying to move away from it, and that is because it is effectively a lottery system. Any miner can try and compete for the 6.25 Bitcoin reward that is generated every 10 minutes, and everyone is essentially trying to guess the address of the next block. Some people describe this as solving complicated math problems, but it has a lot of people competing for a single reward and it generates a lot of energy.

I think as more cryptocurrencies embrace different validation methods, whether it be proof of stake, proof of history is another one, perhaps the footprint could be reduced, but it seems unlikely that Bitcoin will move away from the proof-of-work method. And as you cited, the Cambridge Index, when crypto is very high, when Bitcoin reached its highs in May, we saw an estimate of 143 terawatt hours, which is more than the consumption of Argentina and more than the consumption of Norway. And so, I think the answer is it depends, but I think the proof-of-work validation method is climate-incompatible.

Ms. TLAIB. Well, no, a recent study out of China suggested that without taking any action to curb the greenhouse gases produced by electricity generation for Bitcoin mining, that they could see, like, 130 million tons of carbon per year. Mr. Chairman, my point is that the climate crisis is here. We need to do everything we can in our power and our purview to really, truly reduce our carbon footprint and so many other things that we are trying to do in addressing that. I saw firsthand what was happening in my community as we saw record rainfall. But I really do appreciate this committee hearing, and I yield back.

Chairman GREEN. The gentlelady yields back.

The Chair now recognizes the gentleman from South Carolina, Mr. Timmons, for 5 minutes.

Mr. TIMMONS. Thank you, Mr. Chairman. Some of my Democrat colleagues have painted a broad brush against cryptocurrency as the purview of charlatans and scammers. In fact, Mr. Sherman has called for an outright ban on cryptocurrencies in the United States. If we could, just for a moment, take a deep breath and heed the words of President Obama's own CIA Director, Mike Morell, who, in a recent report said that, "Bitcoin's use in illicit finance activity today is extremely limited and blockchain ledgers are a highly effective crime-fighting and intelligence gathering tool." He urged for a more fact-based dialogue between industry and government to ensure that real risks are mitigated and the opportunities for potentially revolutionary technologies are not squandered.

Mr. Van Valkenburgh, is this the road we are headed down? Are cooler heads prevailing or will alarmism win out?

Mr. VAN VALKENBURGH. I have been lucky to have the job that I have had for the last 6 or 7 years now where we have gotten to meet with all of the regulatory agencies that have some piece of jurisdiction over cryptocurrency, both in the Obama Administration and now in the Trump Administration. And I have always been impressed by the level of knowledge of that one person, or maybe that small group of people within the agency who is focused on this technology and focused on reasonably applying the existing rules to the risks presented by the technology. I think at the regulatory level, we have seen cooler heads prevail for a long time, and I am grateful for that. We have had reasonable regulation from an anti-money laundering standpoint. To counter what Representative Sherman suggested, we have seen KYC and AML at all of the U.S. exchanges and robust suspicious activity reporting. And I have talked to law enforcement who have actually said they prefer doing investigations when it is on an open blockchain network because there is a single source of truth, which is a ledger, rather than a number of dubiously well-held records at international financial institutions.

Mr. TIMMONS. Sure. Thank you. Thank you for that answer. It really frustrates me when I hear members of this committee imply that Americans are not smart enough to know that investing in cryptocurrencies carries risk or even the capital markets, more broadly. We heard a similar tone in the GameStop hearings as well. They won't come right out and say it, but I find it insulting that members of this committee feel that their constituents don't know what they are doing when they make investments. I am not going to patronize the folks back home in my district. Do we have a role in making sure they know what they are getting into? Absolutely. But let's stop implying that our constituents don't know what they are doing.

My next few questions are for Ms. Hammer. There is a common misperception which we have heard several times today that cryptocurrency is, "unregulated." However, we have seen the SEC and other regulators at the State and Federal level be proactive in enforcement actions and providing guidance as to how businesses can offer services in relation to cryptocurrency. Can you describe the current regulatory state of cryptocurrency in the United States, and regulations that crypto companies have to comply with in regards to consumer protection?

Ms. HAMMER. Thank you, Congressman, for that excellent question, and it definitely covers many of the issues that we have discussed here today and the complexity of the regulatory framework. The reality is that crypto and crypto companies receive different types of regulatory treatment throughout our regulatory system. This is how our system works. The Internal Revenue Service issued a notice in 2014 that crypto would be treated as property, but if you are paid in crypto for your work, it is treated as income and taxed as such. The Securities and Exchange Commission may regulate cryptocurrency as a security if it meets the criteria of the Howey test unless that particular asset is eligible for an exemption. In some cases, crypto may be regulated as a commodity by the CFTC, and there are many different types of companies that interact in the crypto world now that have different authorities, such as the National Trust Charter from the Office of the Comptroller of the Currency. And as I mentioned earlier, we have a number of States that are innovating their own regulatory frameworks.

So, my key issue is that we need regulatory clarity in our policymaking, and I believe that we have an authority in place through the FSOC to lead that at a high level. The FSOC has a mandate under Dodd-Frank Section 120 to coordinate around issues related to potential systemic risk. And in addition to that, it has the ability to form a technical or advisory committee, including one that would work with the States. In addition, the FSOC is charged with consultation with international standard-setting bodies, and we have talked about a number of issues today that are international in nature. In fact, crypto crosses borders. There are places where there are gaps in the regulation, and the best way to address that is through international standard setting.

Mr. TIMMONS. So, do you think that the Federal agencies have the tools necessary to coordinate their efforts around blockchain and crypto regulation, or do you think it is going to require congressional action?

Ms. HAMMER. I believe that we have the authority in place to coordinate through the Financial Stability Oversight Council. That said, I think we have a lack of clarity in the regulatory framework, and I strongly believe that we need to have official public data sources. In order to create a framework for cryptocurrency regulation, we need a map, and to have a map, we need data about where is crypto, where do the risks lie, et cetera.

Mr. TIMMONS. Ms. Hammer, I'm sorry, my time has expired. I appreciate your answer. With that, I yield back. Thank you.

Ms. HAMMER. Thank you.

Ms. WILLIAMS OF GEORGIA. [presiding]. The gentleman from Illinois, Mr. Garcia, is now recognized for 5 minutes.

Mr. GARCIA OF ILLINOIS. Good morning everyone, and thank you, Chairman Green and Ranking Member Emmer, for hosting this important hearing, and, of course, thank you to the witnesses today. I think it is easy to fall into a trap of believing that cryptocurrency is too technical for everyday people, that trends like GameStop and crypto are funny, weird coincidences that might make you rich. The fact is that the crypto market represents more than $2 trillion in assets, and $2 trillion matters to everyone. In this committee, it is our responsibility to look after the financial system.

I watched my neighbors lose their homes in the great financial crisis, and many neighborhoods in my district never recovered. I am glad that we have not faced another crisis like that yet, but I am very worried about the future. The fact is we don't know all of the risks that cryptocurrencies create for us, and we know that cryptocurrencies are extremely volatile. We know that some of our largest banks are figuring out ways to get into them, but we don't know how concentrated ownership is, and we don't know how exposed our hedge funds already are. So, in short, we know that crypto is big, but we don't know all of the threats that it can pose.

Ms. Goldstein, it seems like many of the cryptocurrency proponents are at least honest. They want to get around regulations. How much of the appeal of cryptocurrency is just regulatory arbitrage instead of real innovation?

Ms. GOLDSTEIN. Thank you for the question, Congressman. I come at this from the perspective of someone who worked at Merrill Lynch and Deutsche Bank—well, Merrill Lynch prior to the 2008 financial crisis. I worked for the over-the-counter equity derivatives trading desk before Dodd-Frank, when there was no regulation, and all of the trading was essentially opaque, and the cryptocurrency markets remind me of that time. And there have been statements in this hearing today that all U.S.-based exchanges have Know Your Client requirements, which is true, but that is not the only place U.S. users can trade cryptocurrency. There are DeFi platforms, and I have yet to come across a single DeFi platform that has Know Your Customer requirements. And so, there are a number of ways to sort of evade some of the so-called safeguards that are already being touted as being in place.

And I think we need to look at what CFTC Commissioner Dan Berkovitz recently said in a speech, which is that some of these DeFi platforms are operating as unregulated, unregistered exchanges and may be illegal under the Commodity Exchange Act. I also think that we need to be concerned about leverage—leverage by institutions, but also leverage by retail investors. Retail investors in the stock market traditionally can't have more than a 2 to 1 leverage, but in cryptocurrency markets, many individual investors can get up to a 125 to 1 leverage, and that can wipe you out quite quickly. And so, there are opportunities in the space, unfortunately, for regulatory arbitrage, and I do think that is part of the reason that they have been successful to date. I do think that the regulators should take a close look at their existing enforcement abilities to see what can be done about that.

Mr. GARCIA OF ILLINOIS. Thank you. I think you just got to the second question I was going to ask you, and that is, what are the most important things that regulators can do to keep crypto from threatening our financial system?

Ms. GOLDSTEIN. Congressman, I will take a shot at elaborating. I do think that in some ways, the United States is behind. There has been a lot of recent regulatory activity. Canada has pursued enforcement actions against Bovet and KuCoin, among others. Japan and Germany have warned Binance about their so-called tokenized stocks, which are essentially crypto assets that track the performance of stocks and look very similar, to me, to the kinds of equity swaps or total return swaps that crashed the Archegos Family Fund. We recently saw the U.K.'s Financial Conduct Authority (FCA) tell Binance that they need to put a warning on their website as of today saying that they are not registered with the FCA. And I think in some ways, the U.S. regulators are behind international regulators in putting out these sort of consumer warnings, so that is one thing that they could do.

Another thing that they could do is look at leverage by retail investors. Why is there this difference between the access to leverage of retail investors in the stock market and in the crypto markets? And as I said in my opening statement, I think it is very important, whether it is Congress or the regulators, that we pursue an avenue to ensure that private funds, like hedge funds, are disclosing what their cryptocurrency positions are so that the regulators can get a handle on any systemic risk concerns.

Mr. GARCIA OF ILLINOIS. Thank you so much. I yield back.

Chairman GREEN. The gentleman yields back.

The Chair now recognizes the gentlewoman from Texas, Ms. Garcia, for 5 minutes.

Ms. GARCIA OF TEXAS. Thank you, Mr. Chairman, and thank you for calling this very important hearing on a topic that has been on the minds of many of us. The issue of crypto assets is so important to us because we must understand what the financial marketplace of the future will look like. Digital assets present an exciting new frontier with the potential to bring the unbanked into our economy. In fact, 12.2 percent of Latinos and 13.8 percent of Black households were unbanked in 2019 compared to only 2.5 percent of White households. This is not the first time I have discussed that, and I will continue to discuss it.

While cryptocurrency is a new frontier, we must be cautious to make sure that we protect consumers from any avoidable risks. We need to bring disenfranchised Americans into the financial fray, but we must also look at the bigger picture to make sure that we do not inadvertently allow a system to grow that grants too much market power to a few decision makers. It is our job as lawmakers to protect the consumers from financial abuses. This includes protecting the sovereignty of the U.S. dollar. We cannot allow anyone to compete with our U.S. dollar. Without a sovereign dollar that represents the primary form of currency in this country, we risk destabilizing our financial markets, and I would also suggest it would destabilize global markets. We must protect the valued merits of the U.S. dollar, both in cash and digital form.

Stablecoins, such as Facebook's Diem, present a sovereignty risk to our domestic currency. In other words, there is a risk of these stablecoins replacing the U.S. dollar and undermining the Federal Reserve's ability to perform its critical functions as the central bank. The World Economic Forum has warned its member countries of this risk, and the Bank for International Settlements has urged countries to form their own central bank digital currencies so they can offer access and still protect the sovereignty of their currencies.

Last Congress, I introduced a bill to regulate and manage stablecoins as securities. Pegging them to a currency without proper regulation, like Facebook has done with Diem, is a step forward, but it does not address all of the risk.

Ms. Goldstein, I wanted to start with you. How urgent is this need for regulating stablecoins and protecting the U.S. dollar?

Ms. GOLDSTEIN. Congresswoman, thank you for the question. I think it is an urgent need for regulators to look into stablecoins. Thankfully, we have already had State attorneys general looking at the problem. New York State Attorney General Letitia James has looked at BitConnect, which operates the Tether stablecoin, and they have recently reached a settlement, and you can no longer buy Tether in the State of New York. But I think there are a lot of questions about what is Tether actually backed by. They recently had to disclose a number of their reserves, which included commercial papers and cash-like products, but they had very little actual cash. They had some commodities. They had some other digital assets. And I think there was recent reporting, I believe it was in the Financial Times, where they asked some of the large banks, who tend to be one of the major counterparties for commercial paper, and they said they hadn't done any business with BitConnect, so who are they doing business with?

I think this is an opportunity to make sure that stablecoins are actually based on something, and we are not just relying on faith, that it is actually pegged to some denomination of the U.S. dollar or another currency. And I think perhaps one way to approach that would be to have central banks issue central bank digital currencies—

Ms. GARCIA OF TEXAS. Right. And we hear from some, "You can't do that." It is not about regulation. We can't go under as a government. We always just regulate. We have to allow for innovation. Do you see that it is possible to strike a balance where we protect innovation and we allow that to occur, but balance the need for the sovereignty of our dollar, and balance of protection that we need for consumers?

Ms. GOLDSTEIN. Congresswoman, yes, I think we absolutely can achieve that balance. I don't think it is unreasonable to want to ensure that something that pretends to be pegged to one U.S. dollar actually is and isn't capable of breaking the buck and people losing their funds. That is not to say that there aren't existing problems in the financial system. I think there may be similar problems with money market mutual funds and their sort of ability to peg themselves to the dollar and break the buck. But we can always do better, and we can strike the right balance to both protect consumers and also encourage innovation. I don't think that they are in conflict.

Ms. GARCIA OF TEXAS. Thank you. I did have one more question, but I will submit it in writing, Mr. Chairman. I see that my time is down to 3 seconds, so I will yield back.

Chairman GREEN. The gentlelady yields back. The Chair now recognizes the gentleman from Ohio, Mr. Gonzalez, for 5 minutes.

Mr. GONZALEZ OF OHIO. Thank you, Mr. Chairman, and thank you to our panel. In a way, I am sort of encouraged by today's hearings. I think there is more broad agreement than is normal in this committee, at least amongst the panel, the majority of the panel, that we do need clarity. We do need clarity with respect to how we are going to regulate in this space because we are pushing a lot the innovation overseas. I hope we get that clarity.

Ms. Parker, I want to start with your testimony. You suggest, to my earlier point, that this uncertain regulatory environment does choke innovation and pushes projects overseas, correct?

Ms. PARKER. That is correct.

Mr. GONZALEZ OF OHIO. Thank you. And it forces Americans to do things like use VPNs as a workaround, and I think you rightly highlight that this is a bad outcome for Americans.

Ms. PARKER. That is correct.

Mr. GONZALEZ OF OHIO. Thank you. You also say that regulators are hesitant to get involved when, in your words, "relevant Members are hostile to crypto." Subcommittee Chairs on this specific committee would qualify as relevant. I won't—

Ms. PARKER. They qualify as relevant, but not hostile.

Mr. GONZALEZ OF OHIO. Right.

Ms. PARKER. Right.

Mr. GONZALEZ OF OHIO. But some, potentially. So assuming regulators are listening, and I didn't want to put you in that box there, but you did say it, listening, I would encourage them to listen to the Full Committee and not "relevant Members" who say ridiculous things, like people should invest in the California lottery instead of cryptocurrency, and suggest that if it is possible to lose money, that some people are going to make money and others are going to lose money, that whatever that thing is, whatever that instrument is, ipso facto should be banned. And also, people who suggest that because there are money launderers and bad people who use cryptocurrencies—and there are, we know that—that it should be banned.

I would like to cite a statistic by Katie Haun, who broke up the Silk Road scheme a while back: 99.9 percent of money laundering with fiat currencies goes unprosecuted. So, the commentary around whether we should allow cryptocurrencies to exist on AML lines, I would ask, compared to what? Compared to a fiat where 99.9 percent goes unprosecuted?

I want to shift now to Mr. Van Valkenburgh. Another comment was made was, well, it is highly volatile, and because it is highly volatile, there is necessarily systemic risk, and we should ban it because it is highly volatile. Here are some bubbles in the crypto space: in 2011, it went from $1 to $31 down to $2, with no systemic risk; in 2013, $13 to $266 down to $65; in 2015, $65 to $12.42 to $200. And then obviously, in the last year, we have seen it go from a couple thousand to $60,000, back down to $30,000 and bounced up. At any point, Mr. Van Valkenburgh, did the Federal Government have to step in and prop up the cryptocurrency markets or save anybody?

Mr. VAN VALKENBURGH. No. By definition, cryptocurrencies are unbacked. We have heard some Members question whether that is wise, but something that is not backed doesn't have promises associated with it, and so there aren't promises to be disappointed and someone to be bailed out in that case. It is like gold. How would you bail out the price of gold? Whom would you pay?

Mr. GONZALEZ OF OHIO. Exactly. And then with my final minute, I would like to talk to you. There was a comment made that people are going to lose money, and that is definitely true. Can you compare blockchain and cryptocurrencies to the early internet? Maybe use the Pets.com and Amazon analogy, if you could.

Mr. VAN VALKENBURGH. Absolutely. So, these are brand new systems that do something amazing. They allow people across the world to coordinate to perform and provide a service that previously could have only been performed and provided by a big company. So, just like the internet suddenly gave us the ability to all have our own blogs and not necessarily have to rely on the New York Times or the Wall Street Journal, the nature of Bitcoin is quite radical. It allows us to rely on ourselves in addition to centralized entities. And the radicalness of that innovation is something that people will get excited about for the right reasons, and sometimes overly excited for the wrong reasons. So, I think it is a good metaphor.

Mr. GONZALEZ OF OHIO. Right. And so, there is risk in the system, but with great risk comes great reward, and if you want to ban risk, well, guess what? You also ban reward and you ban innovation. And so, I thank you, and with that, I yield back.

Chairman GREEN. The gentleman yields back.

The gentleman from California, Mr. Sherman, who is also the Chair of our Subcommittee on Investor Protection, Entrepreneurship, and Capital Markets, is recognized for 5 minutes.

Mr. SHERMAN. Especially after the last gentleman's comments, I have a lot to say, and I will use my 5 minutes to say them. Of course, as I pointed out in my opening statement, and thank you, Mr. Chairman, for allowing me to make an opening statement, those who live in the crypto world have their relevance, their fortunes caught up in making this successful. We are told that cryptocurrencies are fun and useful, and there might be somebody in my district who enjoys trading them. One thing that would be useful would be a $10,000 bill. It would occasionally be used to buy an automobile, but it would be uniquely valuable for those drug dealers. We would make their lives so much easier when they have to deal with these $100 bills. Imagine if they had a $10,000 bill. And our natural tendency is to try to facilitate and help people do their financial transactions. But I, for one, am not looking for a more accurate heroin scale to make sure that one drug dealer doesn't get cheated by another.

We are told that you have to be for cryptocurrencies, otherwise, you are anti-science. I am for the internet. I am for semiconductors. I am for computers. I am for blockchain. That does not mean I have to be for a cryptocurrency or, for that matter, for that $10,000 bill that would make the lives of some of our constituents easier. We have to keep pace with China. China is close to banning all cryptocurrencies. They are going to protect their economy, protect their currency, and protect their tax collection system. If we fail to keep up with China, we will fall behind.

The biggest threat to Bitcoin is Ethereum. The biggest threat to Ethereum is Dogecoin. The biggest threat to Dogecoin is Catcoin, Dogecoin, and Hamstercoin. There is an unlimited number of potentially popular cryptocurrencies. Compare that to sovereign currencies. There are a limited number of nations, but even then, there are four or five big economies. The Uruguayan peso will never displace the U.S. dollar, but will Ethereum displace Bitcoin? Will Hamstercoin displace Ethereum? And, oh, by the way, if people are going to take the time and effort and the intelligence to create new cryptocurrencies, will they have a back door so that they can have a few trillion dollars of their own? We are told that is impossible from the same people who say it was impossible that between 2017 and 2020, more than $19 million worth of Bitcoin and Ethereum were successfully double spent, effectively counterfeiting the supposedly hamper-free currencies. We are going to have one cryptocurrency after another, and those cryptocurrencies will have less and less protection.

I want to commend Rashida Tlaib for talking about the effect on our planet, and I ask unanimous consent to put in the record an article from the Wall Street Journal detailing how coal plants that had been mothballed, that were no longer being used, are being put back online just to create electricity to mine Bitcoin.

Chairman GREEN. Without objection, it is so ordered.

Mr. SHERMAN. One of our witnesses says that traditional financial systems use 5 times as much energy. Yes, that is to do 500,000 times more transactions. Everything that is purchased on this planet at the retail level is purchased with a sovereign currency, so the 5 times is a tiny percentage. We are told that cryptocurrencies can be a hedge against inflation. We know that currencies are supposed to be a store of value. The dollar does erode in value, perhaps a quarter of a percent a month. You can buy Treasury inflation-protected securities and be fully protected from inflation, or you can say that you are trying to get a good store of value, so you are going to invest in a cryptocurrency that could lose a quarter of its value if there is a joke on SNL, as there was recently and, as we saw, a nearly one-quarter drop.

We are told that we are going to have Know Your Customer at the level where you are trading and investing, but ultimately, Bitcoin is supposed to be a currency, and so you transfer it to your individual wallet, and there it is totally anonymous. Yes, the records are maintained forever anonymously, and, with that, you have the perfect tool for those who are underpaying their U.S. taxes by a trillion dollars a year, concealing $3 trillion a year in income. And that means perhaps $30 trillion that has to be hidden every decade. Only with cryptocurrencies can we evade the effort to enforce our tax laws. That is why cryptocurrency is popular.

Chairman GREEN. The gentleman's time has expired.

Mr. SHERMAN. I yield back.

Chairman GREEN. The Chair will request that the gentleman place his question in writing for the record.

Mr. SHERMAN. Thank you.

Chairman GREEN. The Chair now recognizes the gentleman from Ohio, Mr. Davidson, for 5 minutes.

Mr. DAVIDSON. I thank the chairman, and I really appreciate this hearing. We have come a long way in Congress, just by having this hearing, so thank you. Thank you for the colleagues who have taken time to prepare for it. Some know the topic very well, and some are just getting acquainted with it, and some, no matter how well-acquainted, will remain hostile to the idea. Look, I won't spend long on Mr. Sherman's remarks, but China is building the creepiest surveillance tool in history. We should absolutely not emulate them. The whole fact that China is doing that is why we should be embracing decentralized distributed ledger technology that is more secure and does protect privacy. We could actually go further to defending freedom and restoring our Fourth Amendment constitutional protections in the financial sector by embracing the potential of this technology, not by being hostile to it. The third-party doctrine has annihilated the whole concept of privacy, and, yes, we absolutely should keep the country safe. I could spend a lot longer, but I am reminded of Proverbs 26:4, so I won't spend longer on his comments.

Ms. Su, your testimony is the only one I saw that discussed Tether at length. I would like to delve into that for a moment. Ms. Goldstein, you spoke about the same topic. Last month, Tether revealed the breakdown of its reserves. In their disclosure, we learned that nearly 50 percent of its reserves are held in unspecified commercial paper of unknown quality. I looked at a few constant net asset value funds or liquidity funds held by larger banks to see how their composition compares to Tether's. While these funds are not a part of the crypto market, they are targeted for investors with surplus cash deposits who seek liquidity from their investments. Thus, they serve a similar function to Tether or other stable coins.

What I found when I looked into these liquidity funds was that commercial paper accounted for around 25 to 30 percent of their underlying reserves in the net asset value funds. Additionally, we know the quality of those commercial paper holdings is disclosed. Ms. Su, based on Tether's disclosure, do you think there should be further disclosure regarding its underlying composition?

Ms. SU. Yes, I think that one was the first disclosure ever, and the New York Attorney General's office took actions in investigating the case prior to its mandated disclosure as part of the settlement agreement. And some of the argument focused around the earlier promise of full backing and whether the disclosure came out to match that early promise.

Mr. DAVIDSON. Yes, and definitely a relevant piece. It is easy to break the buck, particularly when you hold structured credit with an undisclosed quality for the structured credit, so where they are at in the position is really important. It may not actually be a stablecoin.

Ms. Parker, in your written testimony, you said that the SEC is not comfortable approving traditional regulated products based in crypto, such as a Bitcoin ETF, even though it, "would provide more transparency into crypto markets." You go on to say, "Because of this hesitancy, there is a lack of regulated products that are commercially attractive to market participants."

Ms. Parker, can you expand on how regulated commercial products like a Bitcoin ETF and other traditional regulated products would bring additional consumer protection elements to the cryptocurrency system?

Ms. PARKER. Thank you, Congressman. That is a great question. My point really is that there are not sort of the Bitcoin ETFs, the leveraged products, the margin products that are available on foreign exchanges that U.S. customers are routinely accessing through the internet with a VPN that provides, frankly, too much leverage. And they are likely inappropriate for most retail customers. So my point is, to sort of stop that phenomenon, let's counter with having U.S.-regulated exchanges, securities exchanges, futures exchanges, list regulated products that have some form of margin, that have some form of leverage that is available to retail customers that is appropriate for their sort of credit and suitability for their trading experience.

So, let's have this as a U.S. alternative to the foreign exchanges that U.S. customers can access because it is just a website. So, the Bitcoin futures, the margin products, the leveraged spot products that retail customers are desperately seeking at the overseas exchanges, let's have them in the United States.

Mr. DAVIDSON. Thank you for that. I really appreciate it. It is a great point. Some regulation would be good. I would love to talk more, but this is the point of the Token Taxonomy Act that has been bipartisan from its origins, and it would provide some regulatory clarity for what is a security and what is not. It wouldn't have anything to do with the ETFs, but it would provide a basis for it, and if we can get to that, we really can do a better job of protecting consumers. Generally, when we protect consumers, we do provide some regulatory clarity, and we had a great hearing on SPACs. You can have an ETF in SPACs, but currently nothing with Bitcoin, so thanks a lot. My time has expired, and I yield back.

Chairman GREEN. The gentleman's time has expired. The Chair now recognizes himself for 5 minutes.

Dear friends, I do have some consternation, and my consternation emanates from 2008 when I, as a member of this very committee, sat down on a lower part of the dais, and I was here when then-Secretary of the Treasury, Hank Paulson, appeared. He sat right out in front. I remember Representative Cleaver was to my left, I believe, and Representative Scott was to my right. The Secretary wanted $700 billion. He had approximately, I thought, 5 pages asking for $700 billion. I have since read that it was 3 pages. Be that as it may, $700 billion to bail out what were called exotic products at the time—$700 billion. As you can well imagine, my constituents were up in arms. They were calling me by the hundreds demanding that I vote against a $700-billion bailout. Being the good steward that I am, I voted against it. And as I stood in the cloakroom and I could see the tabulation of votes, there also was a television monitor, and I could see the monitor indicating that the vote was failing and the stock market was directly proportional to what was happening with the vote. As the bill failed, the stock market was going down. The next day, my constituents were calling by the hundreds. "What is wrong with you? You voted against the bailout. My 401(k) is now at risk." I learned an important lesson: Do what you think is in the best interests of your constituents, even when they may disagree.

This hearing is taking place because I think it is in the best interests of my constituents that we get a better understanding of what we are dealing with. I remember Chairman Bernanke—I have a statement from him that I would like to read, and I will do this quickly. He said that the $182 billion bailout of American International Group (AIG) made him angrier than anything in the recession. AIG took risks with unregulated products, like hedge funds—I am paraphrasing—while using cash from people's insurance policies. He said the government had no choice but to bail it out. Who knew AIG was the glue holding the world together, the global order together? This is of concern to me.

And, Ms. Hammer and Ms. Goldstein, if I can get to both of you, I would like your comments on my concern. You have mentioned FSOC. I don't know how that will help us with a living will, for example. This is of concern to me. How do we manage a behemoth once it becomes so big, that if it fails, it may bring a nice sizable portion of the economy with it? Nothing is too big to fail, but you can be so big that if you fail, you will hurt the economy.

Ms. Hammer, let's start with you.

Ms. HAMMER. Mr. Chairman, thank you so much for your question, and I fully agree with your statement about the importance of evaluating potential systemic risk where taxpayer dollars are concerned. I often speak in my law class about the difference between an emergency response and a proactive policymaking framework. And the problem with an emergency response is that it is inherently backwards looking, and you create what is known as an emergency state relationship between the actors.

We have the opportunity, through the FSOC and Dodd-Frank Section 120, to create a proactive policy framework for cryptocurrency. That means gathering and evaluating data, coordinating the agencies, creating a committee that could consult with the many States that are legislating in this area as we speak, and consulting with international standard-setting bodies. And you mentioned living wills, Mr. Chairman. I think that is an important point because there are many aspects of our regulatory framework that still need to be ferreted out and relate to cryptocurrency. And so, I strongly believe that is the place to start and that we have the resources to do it, and that by putting together our collective minds, we can tackle this problem.

Chairman GREEN. Thank you. My time has expired. My apologies, Ms. Goldstein, but if you would submit comments for the record, I would greatly appreciate it.

Dear friends, I thank the witnesses for their testimony and for devoting the time and resources to share their considerable expertise with the subcommittee. Your testimony today will help to advance the important work of this committee and of the U.S. Congress in understanding and addressing the risks and opportunities inherent in widespread investment in digital assets, including cryptocurrencies.

The Chair notes that some Members may have additional questions for these witnesses, which they may wish to submit in writing. Without objection, the hearing record will remain open for 5 legislative days for Members to submit written questions to these witnesses and to place their responses in the record. Also, without objection, Members will have 5 legislative days to submit extraneous materials to the Chair for inclusion in the record.

Dear friends, the hearing is now adjourned, and, witnesses, I would like to come down and thank you personally.

[Whereupon, at 12:05 p.m., the hearing was adjourned.]

APPENDIX

June 30, 2021

OPEN MARKETS
LIBERTY • DEMOCRACY • PROSPERITY

Written Testimony of Alexis Goldstein
Director of Financial Policy, Open Markets Institute

U.S. House of Representatives Committee on Financial Services
Subcommittee on Oversight and Investigations

America on "FIRE": Will the Crypto Frenzy Lead to Financial Independence and Early Retirement or Financial Ruin?

June 30, 2021, 10:00 a.m.

Chairman Green, Ranking Member Emmer, and Members of the Subcommittee:

Thank you for inviting me to testify at this hearing. I am Director of Financial Policy at the Open Markets Institute, where my work focuses on financial regulation and consumer protection. Previously, I worked as a programmer at Morgan Stanley in electronic trading, and as a business analyst at Merrill Lynch and Deutsche Bank focused on equity derivatives. There, I worked primarily as a product manager for the trading and risk management software used by the global equity options flow trading desks.

I want to start by thanking Chairwoman Green for holding today's hearing, and by thanking Chairwoman Waters for launching the Digital Assets Working Group.[1] I would like to highlight several areas that the Subcommittee may wish to examine further, including concerns around systemic risk, consumer and investor protections, and the potential for shadow banking.

The Lack of Transparency into Private Funds' Footprint in Cryptocurrency Markets Raises Systemic Risk Concerns

Earlier this year, the blowup of a single family fund, Archegos Capital, led to $10 billion in bank losses after the firm's bets on a dozen Total Return Swaps imploded. Apart from long options, no derivatives are required to be reported on the Securities and Exchange Commission's ("SEC") Form 13F, which meant that banks and regulators alike were in the dark about Archegos' positions until its implosion. Chairwoman Maxine Waters, to her credit, introduced discussion

[1] https://financialservices.house.gov/news/documentsingle.aspx?DocumentID=408014.

drafts to ensure that family funds must file 13Fs,[2] and that the form includes reporting on the kinds of derivatives Archegos was trading.[3]

The Federal Reserve's May 2021 Financial Stability report noted that both the Archegos and GameStop volatility "highlighted the opacity of risky exposures and the need for greater transparency at hedge funds and other leveraged financial entities that can transmit stress to the financial system".[4] The extent of hedge fund involvement in cryptocurrencies are a similar blind spot for regulators and banks acting as prime brokers to these funds.

Should a substantial portion of the hedge fund market move into cryptocurrency, extreme volatility in crypto could spread to other financial markets. The lack of reporting by private funds on their cryptocurrency positions will make it difficult for regulators to determine if this market creates systemic risk concerns. There are private services that analyze blockchain transactions for information, including attempting to label the cryptocurrency addresses of larger crypto trading funds,[5] analysis happening informally by market participants,[6] as well as services to try and avoid this sort of analysis by obscuring transactions.[7] There are also so-called "blockchain surveillance" firms which provide services to financial institutions and law enforcement.[8] But this isn't a substitute for formalized reporting by hedge funds, which would give regulators a consistent, standardized view into the footprint of private funds in cryptocurrency.

Signs indicate the presence of hedge funds in cryptocurrency is growing. An Intervest survey of hedge funds managing an average of 7.2 billion showed that North American funds expect to have a 10.6% average exposure to cryptocurrency by 2026.[9] While the failure of Archegos didn't crash the banking system, it was enough to cause tremendous losses and highlighted the failure of the Federal Reserve in its stress testing process.[10] If, as the survey suggests, the majority of

[2] https://democrats-financialservices.house.gov/UploadedFiles/5.06.2021_BILLS-117pih-Fo01_1940.pdf
[3] The Capital Markets Engagement and Transparency Act of 2021."https://democrats-financialservices.house.gov/UploadedFiles/5.06.2021_BILLS-117pih-disclosures.pdf
[4] https://www.federalreserve.gov/publications/files/financial-stability-report-20210506.pdf
[5] https://www.nansen.ai/ ("Nansen is an analytics platform for Ethereum, which combines on-chain data with a massive and constantly growing database containing millions of wallet labels."); https://defiprime.com/product/nansen("Nansen tracks exchanges, token teams, and funds, which means you can see exactly which entities are accumulating - or selling off - a specific token.")
[6] https://twitter.com/frankresearcher/status/1361321945594265602?s=21 (Analysis of transactions by the cryptocurrency trading firm Wintermute)
[7] https://decrypt.co/8299/private-transactions-are-now-available-on-ethereum-in-a-way
[8] https://nomics.com/guides/blockchain-surveillance-companies
[9] https://www.ft.com/content/4f8044bf-8f0f-46b4-9fb7-6d0eba723017
[10] Alexis Goldstein, "These Invisible Whales Could Sink the Economy." NYTimes, May 18, 2021, https://www.nytimes.com/2021/05/18/opinion/archegos-bill-hwang-gary-gensler.html. ("One way the Fed monitors for such risks is through annual bank stress tests. In 2019, Credit Suisse failed part of its stress test because the Fed feared it couldn't accurately project major trading losses. Instead of forcing substantial changes, it seems the Fed let it off the hook too easily: After Credit Suisse's staggering $5.4 billion Archegos loss, it scrambled to raise $2 billion in new capital. The Fed needs to recognize its own regulatory failures and take action, not minimize the significance of the fallout.")

hedge funds with billions in assets under management hold ten percent or more of their positions in cryptocurrency then it may produce dire risks to the financial system such as future crises, as sharp swings in the volatility cryptocurrency markets could lead to forced liquidations of other assets.

Cryptocurrency exchanges and "decentralized finance" ("DeFi") platforms alike are also trying to attract institutional business. Cryptocurrency exchange FTX has created a new section of their (non-US) site to show on each day the percentage of institutional vs retail traders on the platform,[11] and has hired a former executive from Citadel Securities to "massively scale" its cryptocurrency trading.[12] The London-based Aave, which offers lending and borrowing of cryptocurrency,[13] is creating a private pool to allow large institutions to try out their platform.[14] Their efforts appear to be working: Point72, a hedge fund which managed $22 billion as of April 1, was exploring getting into both long and short cryptocurrency strategies.[15] The $40 billion hedge fund Millennium Management has gotten exposure to cryptocurrency through Grayscale's Bitcoin Trust.[16] In May, Ray Dalio, founder of the world's largest hedge fund Bridgewater, told a cryptocurrency conference that he had a position in Bitcoin.[17]

Should an Archegos-like implosion happen in the cryptocurrency markets, we may not be as lucky. Regulators and lawmakers should not delay in examining the footprint of private funds in cryptocurrency markets.

Concentration and Centralization Concerns

While the lack of regulatory reporting on cryptocurrency makes assessment of issues in concentration difficult, it's clear that in addition to hedge funds, large Too Big To Fail banks are also a growing presence in the crypto currency market. Goldman Sachs plans to open a cryptocurrency trading desk,[18] BNY Mellon allows its clients to hold Bitcoin as of February[19], Wells Fargo will offer professionally managed cryptocurrency funds for qualified investors.[20] Morgan Stanley's Europe Opportunity Fund reported owning 28,298 shares of the Grayscale

[11] https://ftx.com/exchange-stats
[12] https://www.theblockcrypto.com/linked/104870/ftx-us-former-citadel-securities-brett-harrison-crypto-exchange
[13] https://www.kraken.com/en-us/learn/what-is-aave-lend; and https://docs.aave.com/faq/
[14] https://cryptobriefing.com/aave-has-private-pool-institutions-testing-defi/
[15] https://www.theblockcrypto.com/post/104522/steve-cohen-point72-crypto-market
[16] https://www.thestreet.com/crypto/bitcoin/hedge-fund-millennium-traded-gbtc
[17] https://www.coindesk.com/consensus-ray-dalio-i-have-some-bitcoin
[18] https://www.cnbc.com/2021/05/07/goldman-sachs-unveils-new-cryptocurrency-trading-team-in-employee-memo.html
[19] https://www.cnbc.com/2021/02/11/bny-mellon-to-offer-bitcoin-services-a-validation-of-crypto-from-a-key-bank-in-the-financial-system.html
[20] https://www.bbc.com/news/business-57147386

Bitcoin Trust,[21] according to a June 28 filing.[22] Venture Capital firms have already invested $17 billion this year into cryptocurrency firms so far in 2021, more than three times what they invested in all of 2020.[23]

In addition, the concentration of particular cryptocurrency assets into a small handful of addresses raise concerns about power concentrations. To take one example, there are several very large “whales" in the Dogecoin cryptocurrency, including a single address that holds over 36.7 billion DOGE (or some 28% of total Dogecoin[24]) worth more than $8 billion. As of February, the top 20 largest Dogecoin addresses held half of the cryptocurrency’s entire supply.[25]

Broad Investor and Consumer Protection Concerns

Dispute Resolution and Restoration of Funds

In traditional financial markets, consumers and investors have a place to go if they are scammed or misled, such as the Consumer Financial Protection Bureau’s complaint database, the Securities and Exchange Commission, and the Federal Trade Commission. When investing with a stock brokerage, the Securities Investor Protection Corporation will restore investors’ cash and securities should their brokerage firm fail.

In cryptocurrency markets, it is unclear what recourse participants have if they are subject to a scam, to misleading or inaccurate Annual Percentage Rates (APRs), or if their funds are lost due to coding errors or poor design, as recently happened with the collapse of the cryptocurrency Titan, which fell from $60 to zero in a matter of days.[26] Users must self-manage a host of risks, including counterparty risk and the risk of hacks and scams.

Honeypots and Rug Pulls

There are certain basic assumptions in traditional financial markets, including that, barring a serious liquidity crisis, you will be able to sell back a product that you buy. On DeFi platforms like Uniswap, Sushi Swap, and MochiSwap anyone can create a new cryptocurrency token and add a “liquidity pool” for it -- including malicious actors who design tokens that can be bought, but not sold. These so-called “honeypot” tokens[27] are prevalent enough that dome DeFi providers

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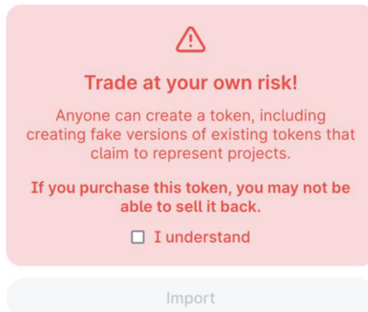
[21] https://decrypt.co/resources/gbtc-everything-you-need-to-know-about-the-grayscale-bitcoin-trust
[22] https://cointelegraph.com/news/morgan-stanley-equity-fund-owns-28-2k-shares-of-grayscale-bitcoin-trust-per-sec
[23] https://www.bloomberg.com/news/articles/2021-06-18/venture-capital-makes-a-record-17-billion-bet-on-crypto-world?sref=f7rH2jWS
[24] As of June 28, Coin Market Cap stated that Dogecoin’s circulating supply was 130,214,617,895 https://coinmarketcap.com/currencies/dogecoin/.
[25] https://beincrypto.com/top-20-dogecoin-addresses-hold-over-50-of-doge-supply/
[26] https://www.theregister.com/2021/06/17/iron_cryptocoin_titan/
[27] https://techcrunch.com/2018/02/16/clever-ethereum-honeypot-lets-coins-come-in-but-wont-let-them-back-out/

include an explicit warning on their website should you attempt to import a custom token. For example, MochiSwap displays the following warning when you import a custom token[28]:



Warnings like this are there for a reason. Bobby Ong, co-founder of cryptocurrency data provider Coin Gecko tweeted, "Crypto is a very dangerous and adversarial place"[29] as a part of a long thread on Twitter that highlighted a series of security concerns in crypto.

Scams and hacks are prevalent enough that there are websites,[30] guides,[31] and services devoted to identifying them. These include suggestions that users read the "smart contract" code of any cryptocurrency token they wish to purchase, looking out for common pitfalls—a fairly high bar for non-programmers.[32] New tokens will often partner with firms that offer audits of their code to signal that the product is valid and safe.[33]

Particular Risks in the Decentralized Finance ("DeFi") Space

Many of the risks of cryptocurrency markets appear to be exacerbated in "decentralized finance" (or "DeFi") space, where the developers of the platform may be anonymous. Unlike cryptocurrency exchanges, where users are able to deposit and withdraw U.S. dollars and other fiat currency, on a DeFi website, the user typically connects to a cryptocurrency wallet.

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[28] MochiSwap, accessed 6/27. https://one.mochiswap.io/#/swap

[29] https://twitter.com/bobbyong/status/1403881080902471680?s=21

[30] See, e.g. https://tokensniffer.com/.

[31] See, e.g. https://coinmarketcap.com/alexandria/article/how-to-identify-and-avoid-uniswap-scams and https://www.cylynx.io/blog/the-rise-of-cryptocurrency-exit-scams-and-defi-rug-pulls/.

[32]

[33] "DeFi Audit Firms Seeing 'Overwhelming Demand' Even Amid Token Price Slump", Coin Desk, Oct 15, 2020, https://www.coindesk.com/defi-audit-firms-swamped. ("The separation between audited projects and non-audited projects became palpable over DeFi's boom months – often referred to as "DeFi Summer" – as code flaws in some projects led to contracts being exploited by hackers.")

Cryptocurrency exchanges follow Know Your Client (KYC) standards; DeFi platforms do not, and identify the user only through their cryptocurrency address.

Recent Hacks and Exploits in DeFi

The cryptocurrency data platform Messari estimated in April 2021 that more than $284 million has been lost to hackers from (DeFi) hacks and exploits since 2019.[34] DeFi platforms and/or cryptocurrency tokens have been hit with hacks and exploits in the last two months:

- On May 28, $7.2 million was stolen from Burger Swap due to a coding error that was exploited by an attacker in what's called a "flash loan" attack.[35]
- Less than a month later, on June 21, Impossible Finance was also hacked with a flash loan attack, leveraging the same exploit that targeted Burger Swap in May.[36]
- On May 20, the Pancake Bunny DeFi protocol was hacked with a flash loan. The hacker stole 697,000 of the BUNNY token and 114,000 of the Binance Coin (a cryptocurrency created by the Binance crypto exchange).[37]
- On May 24, Bogged Finance's cryptocurrency token collapsed following a $3 million flash loan exploit, falling in price from $8.50 to $0.15,[38] leading the platform to start over from scratch with a new token. As of June 28, the new Bog token has yet to recover, trading at $0.91.[39]
- In mid-June, the cryptocurrency token TITAN fell from $60 to close to zero over just a few hours, after what some have theorized was a design failure[40] made by the largely anonymous development team in TITAN's linked stablecoin IRON.[41] Billionaire investor Mark Cuban also lost money in this collapse, and in the wake of it, told *Bloomberg* that "There should be regulation to define what a stable coin is and what collateralization is acceptable".[42]

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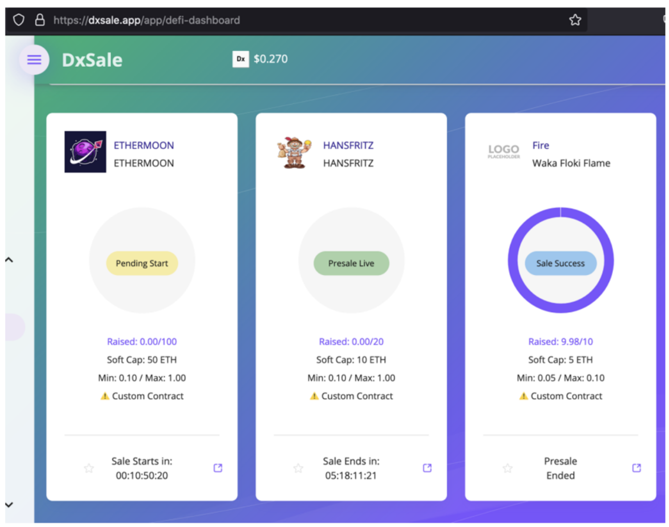
[34] https://finance.yahoo.com/news/messari-defi-exploits-total-284-091600754.html
[35] https://news.bitcoin.com/bsc-defi-protocol-burgerswap-loses-7-2-million-from-a-flash-loan-attack/ ; and https://twitter.com/Mudit__Gupta/status/1398156036574306304.
[36] https://www.bsc.news/post/binance-smart-chain-faces-another-exploit-impossible-finance-loses-500k-in-funds
[37] https://coinmarketcap.com/alexandria/article/pancake-bunny-price-crashes-after-defi-token-targeted-in-flash-loan-attack
[38] BOG price chart, accessed June 28, 2021 at 5:40pm ET. https://charts.bogged.finance/?token=0xB09FE1613fE03E7361319d2a43eDc17422f36B09
[39] https://www.coindesk.com/bsc-based-bogged-finance-suffers-3m-exploit
[40] Frances Coppola, "Crypto's Weimar", https://www.coppolacomment.com/2021/06/cryptos-weimar.html
[41] https://www.theregister.com/2021/06/17/iron_cryptocoin_titan/
[42] https://www.bloomberg.com/news/articles/2021-06-17/mark-cuban-defi-iron-finance-crashed-100?sref=f7rH2jWS

- On June 17, it was reported that users of the hardware cryptocurrency wallet Ledger were being mailed counterfeit hardware wallets, in an attempt to steal their cryptocurrency.[43] Ledger was previously the victim of a hack that exposed its users' mailing addresses.

DeFi Platforms Offering Presales on Tokens

One DeFi platform, DxSale, offers a suite of services including DxMint, which it bills as allowing "anyone to create tokens without any coding experience." Users can also participate in pre-sales of cryptocurrency tokens on DxSales' "DeFin Dashboard"[44]. It is unclear if these cryptocurrency token presales would be considered Initial Coin Offerings (ICOs) by the SEC.



Dxsale.app, accessed June 29th

DxSale offers a warning to anyone attempting to buy into a presale, noting that "In the DeFi zone project owners can load arbitrary token contracts. Please take extra caution and do your research when interacting with arbitrary tokens. You might not be able to claim or sell your token!"

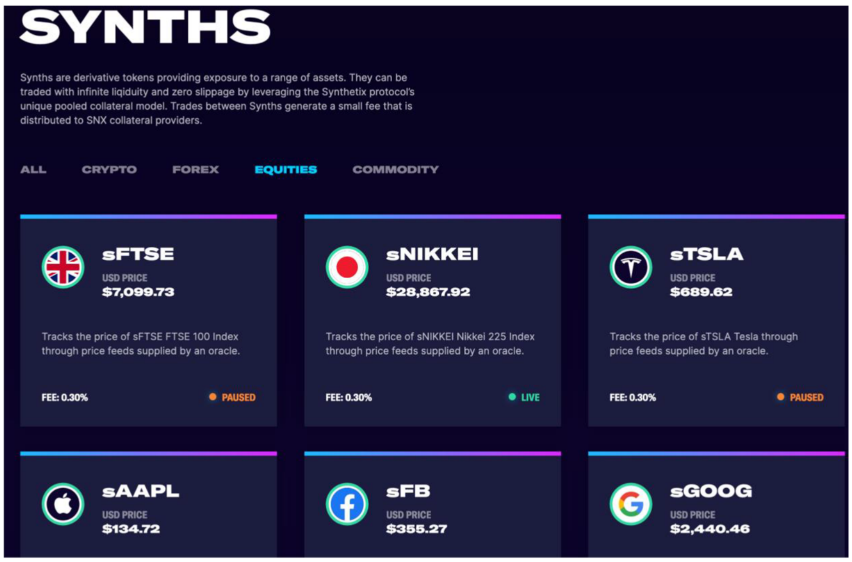
Tokenized Securities on DeFi

Tokenized stocks are crypto assets that track the performance of a given stock — in this way, they behave like a Total Return Swap. FTX and Binance offer these products, but not for US

[43] https://bitcoinmagazine.com/technical/ledger-hack-victim-scam-details.
[44] https://dxsale.app/app/defi-dashboard; https://dxsale.app/app/termsandconditions.

users. But Binance has faced scrutiny from Germany's Federal Financial Supervisory Authority (BaFin), who warned in April that Binance could be fined for offering tokenized stocks without publishing an investor prospectus.

Congress and the regulators should consider what the implications are for DeFi platforms like Synthetix[45] or Kwenta[46] allowing U.S. users to swap for similar "tokenized" versions of Telsa, Apple, and Google when US cryptocurrency exchanges have refrained from allowing U.S. users to access this product.



synthetix.io/synths, accessed June 29th, 2021

Fast-moving APRs with unclear terms

Many DeFi applications offer what they call "yield farming" -- rewards a user can earn in exchange for "locking" (i.e., temporarily removing your ability to trade or move them) a pair of crypto assets on the platform (effectively becoming liquidity providers on that platform, and earning fees inreturn).[47] These rewards, often billed as interest and listed with Annual Percentage Rates (APRs), are sometimes paid in the same crypto you've locked, but may also be paid in

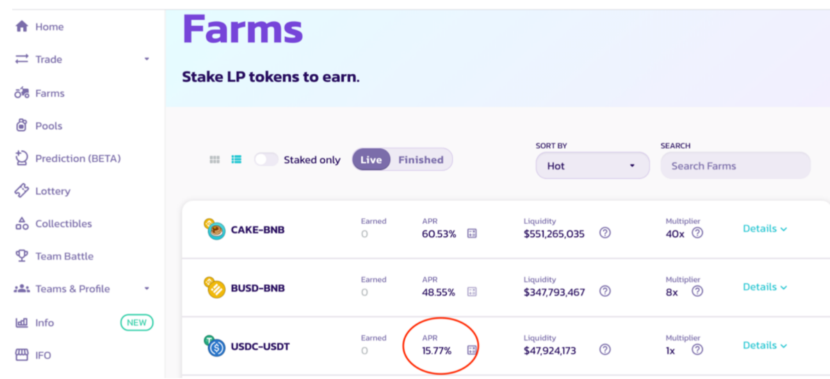
[45] https://synthetix.io/synths
[46] https://kwenta.io/
[47] https://www.coindesk.com/defi-yield-farming-comp-token-explained

another cryptocurrency entirely. According to DeFi Pulse, as of June 28th there are $48.23 billion in crypto assets locked in DeFi.

One DeFi platform called Pancake Swap, which is run by anonymous developers,[48] has an entire section of its website devoted to Yield Farming. On Twitter, they often advertise eye-popping APRs in exchange for locking a pair of cryptocurrencies into a platform's liquidity pool. However, the so-called APRs they advertise on Twitter often appear to be deeply misleading and/or extremely temporary.

To take a recent example, on June 28th at 9:09am ET, the Pancake Swap Twitter account tweeted a screenshot of an available 745,000% APR if a user locked in a pair of cryptocurrencies: US Dollar Coin (USDC)[49] and Tether (USDT)[50], both of which are stablecoins. (Tether and the company that runs it, Bitfinex, have been barred from doing business in New York state under the terms of a settlement reached with Attorney General Letiticia James.[51])

Twitter users noted in the replies that when they visited the website to try and obtain the staggeringly high APR, it was nowhere close to being in the same order of magnitude, but rather in the 30-38% APR range.[52] When I visited Pancake Swap's "Farms" page at 9:50am, less than an hour after the tweet was posted, I saw an APR of 15.77% for the USDC-USDT pair.

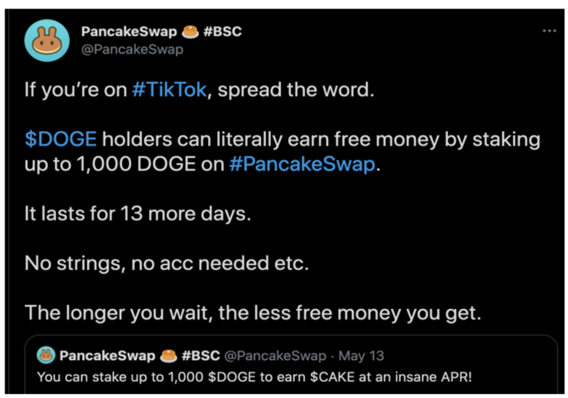


[48] https://decrypt.co/57834/binance-chains-pancakeswap-is-now-one-of-the-top-dexs.
[49] USDC is a stablecoin jointly run by the cryptocurrency exchange Coinbase and the startup Circle. https://blog.coinbase.com/coinbase-and-circle-announce-the-launch-of-usdc-a-digital-dollar-2cd6548d23.
[50] Tether is a stablecoin run by Finex Inc., which operates the cryptocurrency exchange Bitfinex.
[51] https://www.nbcnewyork.com/news/business/ny-bans-tether-bitfinex-over-false-statements-about-dollar-backing-and-losses/2904206/; and https://ag.ny.gov/sites/default/files/2021.02.17_-_settlement_agreement_-_execution_version.b-t_signed-c2_oag_signed.pdf.
[52] See, e.g.: "Down 745 to 30% apr in 30 min." https://twitter.com/TomGuerrier/status/1409505537138565122;

Accessed June 28, 2021 at 9:50am.

While Pancake Swap offers a rudimentary explanation of yield farms in its documentation section,[53] this information is not presented on or linked to the main yield farm page, nor does it present the user with any terms or conditions to evaluate. While other platforms offer better explanations of how and why the APR offered by liquidity providers in yield farms might fluctuate, even with considerable explanation it may not be clear to users just how highly variable the interest rates are.[54]

Users can also lock their crypto on DeFi for rewards through a concept of "staking". Instead of locking in a pair of cryptocurrencies, the user locks in a single crypto. Pancake Swap has also marketed six figure interest rates on staking products. On May 13, PancakeSwap advertised a **101,513.13% APR** for users that stake Dogecoin.[55] Later the same day, PancakeSwap clarified that this was a *temporary* offer that only lasted for "13 more days" but hyped that "[Dogecoin] holders can literally earn free money" by staking their Dogecoin on PancakeSwap, and "The longer you wait, the less free money you get."[56]



[53] ("Yield Farm APR calculation includes both the rewards earned through providing liquidity and rewards earned staking LP [liquidity provider] Tokens in the Farm. Previously, rewards earned by LP Token-holders generated from trading fees were not included in Farm APR calculations. APR calculations now include these rewards, and better reflect the expected APR for Farm pairs.") https://docs.pancakeswap.finance/products/yield-farming

[54] More thorough explanations of the variability of rates offered in yield farming are documented on other websites, such as Unsiwap's explanation of liquidity providers and impermanent loss https://uniswap.org/docs/v2/advanced-topics/understanding-returns/; as well as curve.finance's liquidity pools explanation https://resources.curve.fi/base-features/understanding-curve.

[55] https://twitter.com/PancakeSwap/status/1392813740593082368 (Showing a screenshot with a 101. 513% APR "You can stake up to 1,000 $DOGE to earn $CAKE at an insane APR! Pool is live now!")

[56] https://twitter.com/PancakeSwap/status/1392882105546264578

Many Twitter users complained that, upon visiting the advertised URL, the APR on the website was two (500%) to six times lower (146%) than advertised.[57]

Regulatory Concerns in Cryptocurrency

Regulators in the United States and abroad are raising concerns. SEC Chair Gary Gensler pointed to the market's potential for manipulation.[58] Unlike in traditional financial markets, there is no verifiable quote and order book overseen by regulators.[59] Instead, users are reliant on the exchanges' reporting making data available voluntarily, and should a user wish to verify it, they would need significant programming skills to do so.

The United Kingdom financial regulator, the Financial Conduct Authority (FCA), warned that the crypto exchange Binance lacks the registration necessary to sell crypto derivatives in the UK and must add a warning to its website. Canada pursued enforcement actions against three cryptocurrency exchanges, KuCoin, Poloniex, and Bybit Fintech Limited. In the complaints, the Ontario Securities Commission alleges that these exchanges are trading derivatives and securities without registration or providing prospectuses.

Unregistered DeFi Markets May Violate the Commodity Exchange Act

On June 8, Commodity Futures Trading Commission (CFTC) Commissioner Dan Berkowitz warned that unregistered DeFi markets may be illegal under the Commodity Exchange Act (CEA). In addition to warning about the lack of standards of conduct and the potential for the space to become an "unregulated shadow financial market", Commissioner Berkovitz pointed out that existing derivatives rules may govern DeFi. He pointed out that under the CEA, any facility trading or processing swaps must register as a Designated Contract Maker or a Swap Execution Facility — something DeFi platforms have not done. Commissioner Berkovitz pointed out that the CEA "does not contain any exception from registration for digital currencies, blockchains, or 'smart contracts.'"

[57] https://twitter.com/Greg55974093/status/1392847283377553412 ("The true APY is much lower now around 500%"); https://twitter.com/ans_pirzada/status/1393067870486212610 ("But the APR shown here is just 146.45%?"); https://twitter.com/murnikila/status/1393413999924977670 (With a screenshot displaying a 100.07% APR, noting "APR not so insane anymore huh 😐")

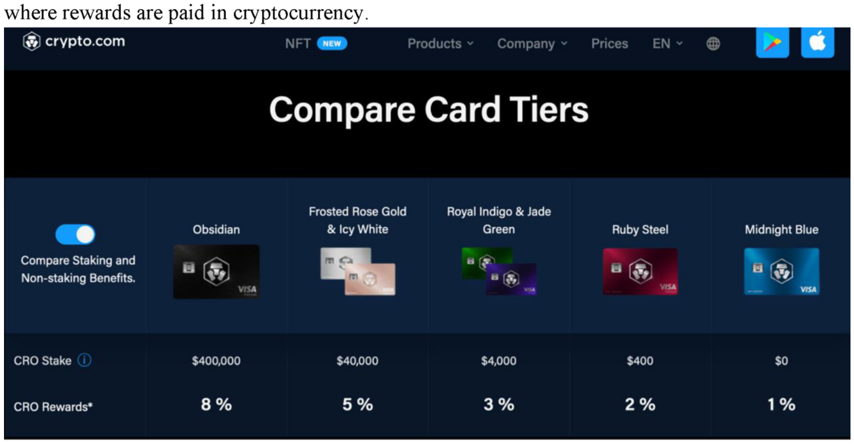
[58] House Appropriations Committee, *Chair Gensler Testimony Before the Subcommittee on Financial Services and General Government*, U.S. House Appropriations Committee (May 26, 2021), https://www.sec.gov/news/testimony/gensler-2021-05-26. ("none of the exchanges trading crypto tokens has registered yet as an exchange with the SEC. Altogether, this has led to substantially less investor protection than in our traditional securities markets, and to correspondingly greater opportunities for fraud and manipulation.")

[59] The SEC's MIDAS system, for example, collects and processes data from the consolidated tapes and separate proprietary feeds in order to view and analyze complete order books (allowing analysis of quote data in addition to trade data): https://www.sec.gov/marketstructure/midas-system

Many DeFi platform do offer derivatives, including the U.S. based DYDX (although U.S. users can only trade on margin, not trade their futures contracts)[60], Opyn which offers options on cryptocurrency[61], the forthcoming SynFutures[62], and Ribbon Finance, which offers structured products based in cryptocurrencies.[63]

Consumer Credit and Cryptocurrency

Cryptocurrency exchanges are moving into consumer financial products, such as credit cards, lending, and borrowing. The Gemini exchange and Crypto.com both have credit card offerings where rewards are paid in cryptocurrency.



https://crypto.com/us/cards, accessed June 29, 2021

Regulators and lawmakers should examine if there are any particular concerns for these new credit card offerings, and if the providers are following all the relevant laws.

Concerns Surrounding Potential False Advertising or Misleading Claims

There are also false advertising concerns in the space. For example, the exchange Crypto.com tells its users that it can get "$25 USD" if it refers a friend to its platform. But this referral bonus marketing in its mobile app makes it seem that the bonus is "$25 USD", when it is actually $25 in Crypto.com's own coin, CRO, and there are a host of criteria users must meet before accessing

60 https://trade.dydx.exchange/portfolio/overview
61 https://opyn.co/; https://v2.opyn.co/#/
62 https://www.coindesk.com/polychain-pantera-back-14m-defi-derivatives-platform-synfutures-round
63 https://app.ribbon.finance/

this CRO reward.[64] A second example is the advertising on the website for cryptocurrency VAIOT, which includes a graphic claiming that its artificial intelligence was "developed in cooperation with IBM", and uses the official IBM logo. However, the only mention of VAIOT on IBM's website comes on its "IBM Community" forums, where a post notes that VAIOT is simply *using an IBM product*, its virtual assistant software "Watson".[65]

Conclusion

Congress should continue to examine if there are regulatory gaps that require new legislation to ensure consumer and investor protection in the cryptocurrency space, as well as ensure there are mechanisms for the regulators to have a complete picture of systemic risk in the space. Regulators should continue to monitor the space and ensure compliance with existing regulations.

[64] The actual conditions (available on the website) of even accessing this $25 in CRO coin are that the user must either stake $400 in CRO, or sign up for the Crypto.com credit card. The only way to turn this into $25 USD would be to meet the conditions, trade it for USD (ostensibly after paying a fee), and only if the price of CRO hasn't depreciated from the $25 USD level after meeting the conditions. See: https://help.crypto.com/en/articles/3124990-bg25-referral-program.

[65] "Enterprise AI developer VAIOT has integrated IBM's Watson Assistant into its new platform for finding and selling car insurance". https://community.ibm.com/community/user/watsonapps/viewdocument/ibm-watson-assistant-is-helping-des?CommunityKey=7a3dc5ba-3018-452d-9a43-a49dc6819633&tab=librarydocuments

Written Testimony of Sarah Hammer
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Senior Director of the Harris Alternative Investments Program at the Wharton School
Adjunct Professor of Law at the University of Pennsylvania Law School

For the Hearing Entitled "America on "FIRE": Will the Crypto Frenzy Lead to Financial Independence and Early Retirement or Financial Ruin?"
House Financial Services Committee
Subcommittee on Oversight and Investigations
June 30, 2021

Background

Chair Green, Ranking Member Emmer, and members of the Subcommittee, thank you for the opportunity to testify today.

My name is Sarah Hammer. I am Managing Director of the Stevens Center for Innovation in Finance and Senior Director of the Harris Alternative Investments Program at the Wharton School of the University of Pennsylvania. I also oversee the Blockchain Laboratory within the Stevens Center at Wharton. Additionally, I am Adjunct Professor of Law at the University of Pennsylvania Law School, where I teach an upper level juris doctor course on financial regulation and the financial services sector. I have also written a paper titled "The Blockchain Ecosystem," which discusses the dynamics of blockchain, its ongoing development, and the framework of its ecosystem.[1]

I previously served as Acting Deputy Assistant Secretary for Financial Institutions and Director of the Office of Financial Institutions Policy at the U.S. Department of Treasury (Senior Executive Service). I also served as a Director of the Securities Investor Protection Corporation. I hold an MBA from the Wharton School, a Doctor of Jurisprudence from the University of Pennsylvania Law School, and a Master of Studies from Oxford University. I am also a member of the American Law Institute, where I am a consultative member of the Corporate Governance Project. My other research areas include alternative investments, financial infrastructure, and diversity, equity and inclusion in financial services.

I would like to note that the views I express here are my own, and not the views of the Wharton School or the University of Pennsylvania, nor am I offering any insight into federal agencies' policy perspectives.

The Financial System and the Blockchain Ecosystem

The United States financial system bears a number of responsibilities, including providing investment services, capital formation, enabling payments, and facilitating saving, lending and borrowing. Over time, particular dynamics of society, technology and the economy, and the financial system itself have led to financial innovations that have impacted the way the financial sector operates and the way sector participants behave. One of these significant financial innovations is the development of blockchain technology.

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[1] Hammer, Sarah, "The Blockchain Ecosystem," November 8, 2018, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3281020.

Blockchain is a shared, immutable ledger that facilitates the recording of transactions in a network. The assets recorded on blockchain can be tangible, such as cash, gold, or real estate, or they can be intangible, such as intellectual property, copyrights, or licenses. Blockchain arose with the invention of Bitcoin in 2009, a digital currency launched by a person or persons known by the pseudonym Satoshi Nakamoto. Bitcoin was purportedly created to eliminate the need for a central monetary authority to monitor, verify, and approve transactions, by enabling a peer-to-peer network in which transactions are "mined" by individuals using software to solve mathematical puzzles.[2] Blockchain provides the means for recording Bitcoin transactions, and as a shared ledger, can be used to record any transaction or track the movement of other assets, not just Bitcoin.

At a high level, blockchain stores transaction data in blocks that are linked together in a chain, and thus as the number of transactions grows, so does the blockchain. Each block contains a "hash", or digital unique identifier, a timestamped batch of recent valid transactions, and the hash of the previous block in the chain. The previous block hash links the blocks together. Blocks are added to the blockchain based on a set of rules agreed on by the network participants. Thus, each subsequent block is sometimes said to strengthen the verification of the previous block, and therefore the entire blockchain.

Today, blockchain technology infiltrates and powers a myriad of institutions, functions, and assets in the United States and globally. The use cases for blockchain are too numerous to cover in detail here, but they include enterprise blockchain, a type of permission blockchain that can be used to track supply chain goods, cybersecurity enhancements, and even use of blockchain technology to address climate change. Importantly, blockchain is now used in various aspects of financial services, including decentralized finance, or "DeFi":

- **Stable Coins:** Digital assets where the value is pegged to a fiat currency, such as the U.S. dollar, or a basket of fiat currencies or other assets considered to be stable in value.
- **Exchanges:** Allow participants to trade one digital asset for another, such as through a decentralized order book, but do not take custody of the digital assets.
- **Derivatives:** Financial instruments where the value is based on the value of an underlying digital asset or group of assets, for example futures and options (calls and puts).
- **Asset Management:** Provides investment advice and execution services for cryptocurrency investments.
- **Lending:** Extends interest-bearing loans to holders of cryptocurrency, potentially paid in other digital assets.
- **Insurance:** Insurers write insurance policies that are designed to protect against cryptocurrency losses or theft.
- **Custody, Clearing, and Settlement:** Financial infrastructure providers perform functions such as safekeeping of financial assets, or settlement of financial transactions using blockchain.

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[2] Bitcoin is considered by many to be an open source monetary system, that is, a system for storing and transmitting an asset (bitcoins) whose underlying computer code is fully open to the public. Bitcoin has no central corporate headquarters, shareholders or employees. Bitcoin enables financial transactions on a peer-to-peer basis without the need for a financial intermediary. Bitcoin software is free to download and can be installed by anyone. The supply of bitcoins is finite and capped at 21 million. The issuance of new bitcoins declines to zero over time. Institutional interest and adoption of Bitcoin has increased for reasons attributed to fundamental demand and fixed supply.

The subject of today's hearing is cryptocurrency. At the outset, it is worth noting that there is no official U.S. public data source for cryptocurrency prices, market size, or volatility. This lack of data is a significant problem. However, unofficial data sources have estimated that the total value of the cryptocurrency markets may exceed $2 trillion, with Bitcoin potentially accounting for more than 50% of that market capitalization.[3] In addition, cryptocurrency and its derivative products may be held in pooled investment vehicles, including private funds. Cryptocurrency instruments are often characterized by high price volatility perhaps due to sensitivity to news stories, differing perceptions over intrinsic value, trading and leverage by market participants, and the newness of the technology.

Due to the approximate market size, high levels of price volatility, and opaque nature of cryptocurrency, it is crucial to consider the risks that it poses. Chief among these are risks to investors, and the potential for systemic risk. At the same time, policymakers should balance potential benefits of blockchain and cryptocurrency, including the reduction of inefficiencies and risks in financial infrastructure such as payments, clearing, and settlement services, and the possibility that it may offer financial inclusion advantages to people who, for various reasons, currently do not have access to deposit money or traditional financial services.[4]

Investor Protection

Investors in cryptocurrency include retail investors, high net worth investors, and institutional investors, such as private funds, corporations, and endowments. Retail investment in cryptocurrency may give rise to particular concerns about investor protection, given the possibility of fraud or business failure, lack of disclosure, and high level of price volatility. As an example, one study found that more than 81% of initial coin offerings (ICOs) were scams and another 11% failed due to operational issues.[5] With respect to price volatility, a stark example can be found in Bitcoin's price drop of more than 30% on a single day in May of this year.[6] Moreover, some studies have found that cryptocurrencies such as Bitcoin have higher price volatility than gold, the S&P 500, and the U.S. dollar.[7]

The Securities Exchange Commission (SEC) is charged with a tripartite mission of protecting investors, maintaining fair, orderly, and efficient markets, and facilitating capital formation. In this, the SEC applies core principles of requiring sellers of securities to make material disclosures to facilitate informed decision making; placing heightened responsibilities on key market

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[3] "Cryptocurrency market value tops $2 trillion for the first time as ethereum hits record high," CNBC.com, April 6, 2021, citing CoinGecko.com, *available at* https://www.cnbc.com/2021/04/06/cryptocurrency-market-cap-tops-2-trillion-for-the-first-time.html.

[4] For example, blockchain can potentially be used to facilitate payments and remittances.

[5] Satis Group, "Crypto-asset Market Coverage Initiation: Network Creation," July 11, 20018, *available at* https://research.bloomberg.com/pub/res/d28giW28tf6G7T_Wr77aU0gDgFQ.

[6] CNN Business, "A crypto crash wiped out $1 trillion this week. Here's what happened," May 22, 2021, *available at* https://www.cnn.com/2021/05/22/investing/crypto-crash-bitcoin-regulation/index.html.

[7] Williams, Mark T., "Virtual Currencies - Bitcoin Risk," World Bank Conference Presentation, October 21, 2014, *available at* http://www.bu.edu/questrom/files/2014/10/Wlliams-World-Bank-10-21-2014.pdf.

participants; and using examination and enforcement resources to bolster those requirements and protect investors.[8]

At the same time, the SEC faces challenges in applying capital markets and securities regulation to cryptocurrency. Chief among these is whether the SEC has the authority to regulate a particular instrument. Currently, the SEC evaluates cryptocurrency sales through the lens of *SEC vs. Howey* ("the Howey Test"), a Supreme Court case that formulated a test to determine whether an instrument qualifies as an investment contract for the purposes of the Securities Act.

> "The test is whether the scheme involves an investment of money in a common enterprise with profits to come solely from the efforts of others. If that test be satisfied, it is immaterial whether the enterprise is speculative or non-speculative or whether there is a sale of property with or without intrinsic value."[9]

Where the instrument qualifies as an investment contract, the SEC may apply the regulatory framework that governs securities, including the Securities Act of 1933[10], the Securities Exchange Act of 1934[11], the Investment Company Act of 1940[12], and the Investment Advisers Act of 1940[13]. Securities laws mandate that all securities offerings and sales be either registered under securities laws or qualify for an exemption from registration. In addition, pooled investment instruments that contain cryptocurrencies (such as an investment trust) would also fall under the purview of the securities laws.

While the SEC has applied securities regulation to dozens of ICOs based on the Howey Test[14], there is still a lack of clarity as to whether it applies to a number of cryptocurrency transactions that currently do not comply with SEC registration and disclosure obligations.[15] In addition, a number of exchanges that offer trading in cryptocurrencies (including cryptocurrencies that meet the definition of a "security") do not register with the SEC, and therefore are not subject to the rigorous oversight provided by the SEC to national securities exchanges.[16] Given this,

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[8] *See* https://www.sec.gov/our-goals.

[9] SEC vs. W.J. Howey Co., 328 U.S. 293 (1946).

[10] Pub.L. 73-22.

[11] Pub.L. 73-291.

[12] P.L. 76-768.

[13] 15 U.S.C. § 80b-21.

[14] *See* SEC.gov/ICO.

[15] SEC Chairman Gensler has asked Congress for clear authority over cryptocurrency exchanges. SEC, Testimony Before the Subcommittee on Financial Services and General Government, U.S. House Appropriations Committee, May 26, 2021, *available at* https://www.sec.gov/news/testimony/gensler-2021-05-26.

[16] Securities Exchange Commission, "Statement on Potentially Unlawful Online Platforms for Trading Digital Assets," Divisions of Enforcement and Trading and Markets, March 7, 2018, *available at* https://www.sec.gov/news/public-statement/enforcement-tm-statement-potentially-unlawful-online-platforms-trading.

there is a strong need to establish a clear, sufficient, and appropriate regulatory framework for cryptocurrency.

Systemic Risk

As discussed, the value of the cryptocurrency market is estimated to possibly exceed $2 trillion, and it is characterized by high levels of price volatility. As of June 25, 2021, estimates are that more than 2,000 different cryptocurrencies circulate globally.[17] For context, estimates of subprime debt in June 2007 (prior to the Great Financial Crisis) hover around $0.8 trillion.[18] Moreover, since no official data source exists for cryptocurrency markets, financial regulators are at a distinct disadvantage in evaluating regulatory options. Notably, prior to the Great Financial Crisis, there was no official data source for credit default swaps, either, and there was also lack of clarity about whether they should be regulated as securities.[19]

Because of the infiltration of cryptocurrency into so many institutions, functions, and assets, the potential risks involved must be carefully evaluated in a coordinated fashion. Not only are cryptocurrencies held by retail, high net worth, and institutional investors, but they are also used for payments and other forms of financial infrastructure. Additionally, cryptocurrency companies have been granted national trust charters by the Office of the Comptroller of the Currency (OCC)[20], and nationally chartered banks are permitted to provide banking services to cryptocurrency businesses, including cryptocurrency custody.[21] Altogether, this means that cryptocurrency risks of varying magnitude now exist throughout the financial system.

In light of the risks and considerations of cryptocurrency, a myriad of agencies and standard-setting bodies are implicated. On May 25, the Federal Reserve Vice Chair of Supervision said that the OCC, the Federal Deposit Insurance Corporation (FDIC), and the Federal Reserve Board of Governors (the Board) are engaged in a “sprint” to develop a regulatory framework, capital treatment, and operational treatment for cryptocurrency.[22] While some regulatory coordination is a step forward, it is critical to remember that cryptocurrency risks fall under the ju-

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[17] “Cryptocurrencies: growing in number but falling in value,” Reuters, citing CoinMarketCap, as of June 25, 2021, *available at* https://graphics.reuters.com/CRYPTO-CURRENCIES-CONFLICTS/0100818S2BW/index.html.

[18] Bank for International Settlements, “The 2008 crisis: transpacific or transatlantic,” graph 5, at 46, *available at* https://www.bis.org/publ/qtrpdf/r_qt1812f.htm.

[19] *See, for example,* Willa E. Gibson, “Are Swap Agreements Securities or Futures? The Inadequacies of Applying the Traditional Regulatory Approach to OTC Derivatives Transactions,” 24 IOWA J. CORP. L. 379, 382 (Winter 1999).

[20] Office of the Comptroller of the Currency, “OCC Conditionally Approves Chartering of Paxos National Trust,” News Release 2021-49, April 23, 2021, *available at* https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-49.html.

[21] Office of the Comptroller of the Currency, Interpretive Letter #1170, July 2020, *available at* https://www.occ.gov/topics/charters-and-licensing/interpretations-and-actions/2020/int1170.pdf.

[22] Reuters, “Fed, OCC, FDIC in ‘sprint” on regulation for cryptocurrency, Quarles says,” May 25, 2021, *available at* https://www.reuters.com/technology/fed-occ-fdic-sprint-regulation-crypto-quarles-says-2021-05-25/.

risdiction of other regulators as well, such as the Consumer Financial Protection Bureau (CFPB), the SEC, and the Commodity Futures Trading Commission (CFTC). Also, some states have their own cryptocurrency regimes, such as Wyoming and New York (the BitLicense).[23] In addition, cryptocurrency risks cross borders, thereby implicating foreign regulatory authorities.

Thus, a key question for cryptocurrency regulation is, how should we proceed, and in what forum? Importantly, a government authority already exists that could support the development of a clear, sufficient, and appropriate framework for regulation of cryptocurrencies. On July 21, 2010, President Obama signed into law the Dodd Frank Wall Street Reform and Consumer Protection Act (the Dodd Frank Act), and created the Financial Stability Oversight Council (the FSOC). The FSOC engages in evaluating and addressing potential systemic risks, convening and coordinating federal rule-making on issues that touch multiple agency jurisdictions, and consulting with foreign regulatory authorities. Title I, Subtitle A, of the Dodd Frank Act created the FSOC:[24]

- To identify risks to the financial stability of the United States that could arise from the material financial distress or failure, or ongoing activities, of large, interconnected bank holding companies or nonbank financial companies, or that could arise outside the financial services marketplace,
- To promote market discipline …, and
- To respond to emerging threats to the stability of the United States financial system.

It is useful to note that the FSOC membership includes voting members from federal agencies with existing authority over many components of the blockchain ecosystem, including:

- The Secretary of the Treasury as Chairperson of the FSOC,
- The Chairman of the Board of Governors of the Federal Reserve System,
- The Comptroller of the Currency,
- The Director of the Consumer Financial Protection Bureau,
- The Chairman of the Securities Exchange Commission,
- The Chairperson of the Federal Deposit Insurance Corporation, and
- The Chairperson of the Commodity Futures Trading Commission.

Conveniently, the Dodd Frank Act also provides the FSOC the authority to appoint technical and professional advisory committees as may be useful in carrying out its functions, including an advisory committee consisting of State regulators.[25] Utilizing this authority may provide a forum for the FSOC to coordinate a federal regulatory framework for cryptocurrency with state regimes. Additionally, Title I provides for international policy coordination by the FSOC, which is important where cryptocurrency issues cross borders.[26]

It is well within the FSOC's authority to evaluate and coordinate policymaking for cryptocurrency. Although the FSOC's nonbank financial designation authority under Section 113 of the Dodd Frank Act[27] was heavily relied on in the post-Great Financial Crisis designation of non-

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[23] *See* https://www.dfs.ny.gov/apps_and_licensing/virtual_currency_businesses.

[24] Pub.L. 111-203.

[25] Dodd Frank Act, Title I, Subtitle A, Sec. 111, Subpart (d).

[26] Dodd Frank Act, Title I, Subtitle C, Sec. 175.

[27] Dodd Frank Act, Title I, Subtitle A, Sec. 113.

banks such as AIG, Section 120 provides for the FSOC to issue recommendations to financial regulatory agencies to apply new or heightened standards and safeguards for a financial activity or practice by banks or nonbanks that could create or increase certain systemic risks.[28]

Clear, Sufficient, and Appropriate Regulation

I would like to note a few additional considerations. First, as I often tell my law students, a regulatory framework should be appropriate to the business model or activity.

Banks, for example, are principal investment business models, where depositors deposit money in the bank, and the bank lends out those funds or invests them. Assets and liabilities are held on the bank balance sheet. Because depositors may demand the return of their deposits at any time, the United States provides for FDIC insurance in case the bank becomes unable to return the funds.[29] Since FDIC insurance implicates American taxpayer dollars, capital and liquidity requirements for banks are considered appropriate in order to protect the taxpayer dollars at risk.

Similarly, asset management is typically based on an agency-based business model, where an investment manager invests money on behalf of investors, but the assets continue to be owned by the investor and do not sit on the asset management company's balance sheet. Because the investor continues to own and make decisions about the assets, and only the investor bears the risk of loss (not the asset management company), the securities regulation regime is highly focused on disclosure and investor protection.

Business models in the cryptocurrency space may look different from traditional bank, asset management, or insurance business models. However, it remains important for regulators to evaluate the particular business model, identify the risks that it poses, and evaluate whether a regulatory framework is appropriate. Capital and liquidity requirements might be appropriate for some business models, especially where taxpayer dollars are at risk, but they may not be appropriate for others. At the same time, where two institutions are performing similar functions, e.g., banking functions, regulators may aspire to give them similar treatment.

Second, I would like to briefly acknowledge some concerns that have been expressed about the regulation of cryptocurrency. First, some argue that cryptocurrency regulation could stifle innovation. No doubt, innovation is an important consideration because it is crucial to powering the American economy. Additionally, some argue that with more than 2,000 cryptocurrencies in global circulation, it is too late to regulate. Still others have worried that inconsistencies in regulation could result in circumvention. Some also argue that stringent regulation could push criminal activity out of the United States and into other jurisdictions, where it cannot be reached. Finally, there is the need to balance the wide range of regulatory objectives, including investor protection, consumer protection, financial inclusion, safety and soundness, and financial stability.

I believe that leveraging the authorities of the FSOC to support the development of a clear, sufficient, and appropriate framework for cryptocurrencies will address many of these concerns. By harnessing the collective resources of the FSOC, its full membership, coordinating with

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[28] Dodd Frank Act, Title I, Subtitle A, Sec. 120, Subpart (a).

[29] The standard FDIC deposit insurance amount is $250,000 per depositor, per insured bank, for each account ownership category. See the Federal Deposit Insurance Corporation, "Your Insured Deposits," Updated 1/2020, *available at* https://www.fdic.gov/resources/deposit-insurance/brochures/documents/your-insured-deposits-english.pdf.

state regulators, and consulting with international standard-setting bodies, concerns about fostering innovation, providing consistency, establishing global reach, and balancing regulatory objectives can be addressed.

I commend the Subcommittee for addressing these issues and fostering this discussion. Thank you.

Recommendations

Establish a clear, sufficient, and appropriate framework for regulation of cryptocurrencies.

Leverage the authorities of the FSOC to coordinate federal interagency efforts, consult with state regulators, and consult with international standard-setting bodies.

Balance and adhere to a variety of important regulatory objectives, including fostering innovation, investor protection, consumer protection, financial inclusion, safety and soundness, and financial stability.

Statement of Christine T. Parker
Partner, Reed Smith LLP

Subcommittee on Oversight & Investigations, Committee on Financial Services
United States House of Representatives

Hearing on "America on "FIRE": Will the Crypto Frenzy Lead to Financial Independence and Early Retirement or Financial Ruin?"
June 30, 2021

Chairman Green, Ranking Member Emmer, and Members of the Subcommittee, thank you for the opportunity to appear before you today. My name is Christine Parker and I am a partner in the New York office of the law firm Reed Smith. Prior to joining Reed Smith, I was a counsel at Sullivan and Cromwell and before joining Sullivan and Cromwell, I spent several years on the legislative staff of Senator Chuck Schumer.

My practice focuses on regulatory, enforcement and transactional matters related to commodities, derivatives, and digital assets. I routinely advise both regulated and unregulated digital asset market participants in connection with matters related to the Commodity Exchange Act and Commodity Futures Trading Commission ("CFTC") regulations, as well as related Securities and Exchange Commission ("SEC") and prudential requirements.

I also advise market participants in the development of digital assets and related technologies including token sales, market infrastructure, trading, clearing, and settlement solutions on distributed ledger technology. In particular, I focus on trading platforms and exchanges. Given my practice, I have had the opportunity to engage with a variety of both federal and state regulators, on behalf of my clients.

➢ **Key Observations**

Based on my background as a former Congressional staffer and my experience in working with various regulatory agencies, including during the implementation of Title VII of Dodd-Frank, and advising a variety of both U.S. and non-U.S. market participants seeking to develop crypto-related products, I have the following observations that are relevant for your consideration:

- It is very difficult to determine how a particular digital asset should be characterized, from a regulatory perspective, if it's not Bitcoin or Ethereum. As a first step, we must look to the underlying features of the token, including any issuances of the token, to determine if the token is a commodity[1], a security[2], neither or both. Ultimately, the determination of

[1] Cryptocurrency and digital assets are not directly addressed in the CEA's definition of "commodity." But the CFTC has maintained that virtual currencies can constitute commodities since 2015. Under the CEA, the definition of "commodity" encompasses the traditional agricultural commodities (*e.g.*, wheat and cotton) as well as "all other goods and articles . . . and all services, rights, and interests . . . in which contracts for future delivery are presently or in the future dealt." 7 U.S.C. § 1a(9).

[2] The SEC's definition of "security" encompasses the traditional securities that come to mind (*e.g.*, stocks and bonds) but also includes a catch-all provision for other financial instruments that constitute "investment contracts." *See* 15

whether a digital asset constitutes a commodity or security is a fact-intensive inquiry that must be conducted on a case-by-case basis. There is no formal guidance or framework to make these assessments.

- In addition, there is not a unitary regulatory agency that has authority over digital assets, such as cryptocurrencies. The current regulatory regime in the U.S. includes both federal and state regulators, depending on the characteristic of the digital asset. This creates significant uncertainty for market participants that are looking to bring new products to market.

- That may be heartening to those who don't like cryptocurrencies or think that this is a sign of a deliberate and well-functioning regulatory regime, but in fact, the opposite is true. The lack of regulatory clarity and uncertainty harms U.S. retail investors that want access to active and liquid digital asset derivatives trading platforms, which exist offshore, but not in the U.S.

- With the recent growth in mainstream institutional and retail customers now actively entering (or looking to enter) the crypto economy, there will be a significant increase in pressure on regulators to approve digital asset products that satisfy the commercial needs of market participants, while complying with our existing financial regulatory regimes.

- Unfortunately, absent explicit support from relevant members of Congress, U.S. regulators will not be in a position to meet the demands of the market and will continue to be unwilling to approve new products for retail and/or institutional customers.

- Part of the current situation stems from the presence of retail customers in markets that were designed for institutional customers. However, the more significant issue is that regulators view the lack of support from Congress for digital assets as a message to them that they should not certify, approve, or support digital asset-related products in any meaningful way, including through formal rulemakings.

- As a result, regulators are not comfortable approving traditional regulated products based in crypto, which could provide more transparency into crypto markets, given Congress' general ambivalence towards the crypto markets. Because of this hesitancy, there are a lack of regulated products that are commercially attractive to market participants that also provide retail investors the level of customer protection they need to safely access these markets.

- Unfortunately, the end result is that U.S. retail and institutional customers obtain access to the traditionally regulated products they want on foreign exchanges, through the use of the

U.S.C. §§ 77b(2)(a)(1). To determine whether a financial instrument constitutes an "investment contract," and thus a "security," the SEC generally applies the four-part test that the Supreme Court laid out in *SEC v. W.J. Howey Co.* 328 U.S. 293, 301 (1946). In 2019, the SEC staff released "a framework for analyzing whether a digital asset has the characteristics of one particular type of security – an 'investment contract.'" SEC, Strategic Hub for Innovation and Financial Technology, Framework for "Investment Contract" Analysis of Digital Assets (Apr. 3, 2019), https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets.

internet and a VPN, without the benefit of the U.S.'s customer protection regulatory regime.[3]

- This is a losing proposition for U.S. crypto markets and market participants. The solution is not to continue to shadow ban these markets, but offer them in the U.S. under an appropriate regulatory regime.

➢ **Please provide up to date information regarding the rapid growth and adoption of cryptocurrency investments:**

While the size of the cryptocurrency market is far smaller than other more established asset classes, the market continues to grow and the rate of innovation continues to increase. Right now, we are in the memeification/gamification stage of crypto, which has exploded during the pandemic. While it's tempting to write off crypto as nothing more than the buying and selling of tokens, the technology underpinning crypto (the respective blockchain networks) and the corresponding uses cases for this technology (decentralized finance or DeFi) will be transformational.

It is important to remember that federal and state regulators have been focused on trading in digital assets for a number of years before this current phase of the market. For example, in June 2015, the New York Department of Financial Services issued virtual currency regulation under the New York Financial Services Law that imposed a number of significant regulatory requirements (including KYC/AML obligations) on market participants that offered virtual currency-related businesses from New York or to New York residents.[4]

That same year, the CFTC determined that virtual currencies, specifically Bitcoin, constituted commodities, finding that "Bitcoin and other virtual currencies are distinct from 'real' currencies, which are the coin and paper money of the United States or another country that are designated as legal tender, circulate, and are customarily used and accepted as a medium of exchange in the country of issuance."[5]

The SEC established as early as 2017 that cryptocurrency may constitute a "security," triggering its jurisdiction.[6] So both state and federal regulators have been actively engaged in the crypto markets for the past several years. In addition, foreign regulators in Europe and Asia have also been actively engaged in creating workable regulatory frameworks for digital assets.

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[3] In these markets, "institutional" market participants generally refers to proprietary traders who are trading their own capital; it does not refer to regulated intermediaries trading on behalf of retail customers.

[4] 23 NYCRR 200.3(a), "No Person shall, without a license obtained from the superintendent ..., engage in any Virtual Currency Business Activity."

[5] *In re: Coinflip d/b/a/ Derivabit, CFTC, Dkt. No. 15-29*, Order n.2. The CFTC has since maintained its position and its staff published further guidance in 2018 stating "[B]itcoin and other virtual currencies are properly defined as commodities." CFTC Staff Advisory No. 18-14, Advisory with respect to Virtual Currency Derivative Product Listings (May 21, 2018), https://www.cftc.gov/sites/default/files/idc/groups/public/%40lrlettergeneral/documents/letter/2018-05/18-14_0.pdf. Courts have also routinely found that virtual currencies can be considered commodities under the CEA's definition. *See, e.g., CFTC v. McDonnell*, 287 F. Supp. 3d 213 (E.D.N.Y. 2018).

[6] *See* SEC, Report of Investigation Pursuant to Section 21(A) of the Securities Exchange Act of 1934: The DAO, Securities Act Release No. 81207, at 11 (2017), https://www.sec.gov/litigation/investreport/34-81207.pdf.

It may seem early in the development timeline of digital assets and blockchain technology, but as global regulators have been very active in these markets, innovators have been working hard to create new applications and products for the crypto markets. One common theme among innovators and developers in the crypto industry is the desperate need for regulatory certainty. It can take a significant amount of time, money and resources to navigate one regulatory regime and in the crypto market, it often requires navigating *multiple* state and federal regulators.

Regulatory uncertainty is not unexpected, given how quickly the crypto markets have evolved. However, as discussed above, U.S. market participants will not hesitate to look for foreign markets (even if unregulated) to access the products they want, if they are not available on U.S. exchanges or trading platforms. In addition, innovators will not hesitate to develop new blockchain-based technology solutions in a foreign jurisdiction that provides more regulatory certainty.

To better understand the various federal and state regulatory regimes that govern digital assets, I strongly urge Members and staff of this Subcommittee to review the White Paper prepared by the American Bar Association, which provides a comprehensive explanation of federal and state laws that may apply to the creation, offer, uses, and trading of digital assets in the U.S. Notably, the White Paper also recommends an analytic framework for considering potential issues of jurisdictional overlap between the CFTC and the SEC under the separate federal statutes they each are responsible for administering.[7]

- **Address the investor protection and systemic risk concerns presented by this rapidly evolving sector:**

To better understand the risks posed by the current crypto market structure, it is helpful to have a high-level understanding of how the crypto markets developed in the U.S.

The quick answer is that the first crypto asset to be made available for trading was Bitcoin, as a commodity under the jurisdiction of the CFTC. As a commodity, and unlike a security, the purchase and sale of Bitcoin (*i.e.*, spot/cash and forward trades)[8] is largely unregulated at the federal level.[9] Spot and forward transactions are typically over-the-counter transactions between two market participants; they are not exchange traded transactions like derivatives on commodities (*i.e.*, futures contracts) or securities. The CFTC has limited anti-fraud and anti-manipulation authority over spot and forward trades, but does not otherwise regulate these markets or market participants.

[7] *See* **Digital and Digitized Assets: Federal and State Jurisdictional Issues**, American Bar Association, Derivatives and Futures Law Committee, Innovative Digital Products and Processes Subcommittee, Jurisdiction Working Group, available at: https://www.americanbar.org/content/dam/aba/administrative/business_law/buslaw/committees/CL620000pub/digital_assets.pdf

[8] Although not defined in the CEA, a spot trade consists of a cash transaction with immediate delivery of and payment for the physical commodity, although settlement within two days is generally permitted. A forward contract is a transaction where a commercial buyer and seller agree upon delivery of a specified quality and quantity of physical commodity at a specified future date. The parties will specify delivery location, time, and amount, and they may agree on a price in advance or that the price will be determined at the time of delivery.

[9] Traditionally, the commodity markets were designed for institutional customers, not retail customers, while the securities markets were designed for both institutional and retail customers.

In response to demand from retail customers, a number of crypto firms developed spot exchanges to allow retail customers to buy and sell crypto. Although these exchanges are not subject to full market oversight from the CFTC and the SEC like CFTC-regulated derivatives exchanges and SEC-regulated securities exchanges, they do require money transmission licenses, which are subject to regulatory requirements of the Department of Treasury and state banking regulators, and enforced by the Financial Crimes Enforcement Network ("FinCEN").[10] In totality, spot crypto exchanges are subject to AML / KYC obligations, cybersecurity requirements[11], business continuity and disaster recovery procedures, capital requirements (for the money transmission licenses), and the anti-fraud and anti-manipulation authority of the CFTC.[12]

Although crypto exchanges are subject to some regulation (*e.g.*, as money transmitters), retail investors can nonetheless access these markets without having their knowledge or experience assessed, having to meet a minimum net-worth threshold requirement or having any requirement to cap their investment in cryptocurrency at a particular proportion of their net worth. This makes it possible for inexperienced retail investors to invest too heavily in the crypto markets. There may be a requirement for risk warnings to be furnished to investors, but when it comes to investing in crypto, it is essentially just "buyer beware."

- **Identify areas where more transparency and oversight are needed to better understand how this asset class is developing:**

As noted above, the traditional market regulators do not have clear oversight into the predominantly-retail centralized and decentralized cryptocurrency exchanges. These exchanges may seem regulated securities or derivatives markets to the typical retail investor, however, because the cryptocurrencies trading on them are commodities (until determined to be securities on a case by case basis by the SEC or a court), neither the CFTC nor SEC (or any other regulator) has authority to impose rules such as registration, reporting, and recordkeeping on these spot exchanges. While these markets generally continue to function well, the absence of federal oversight creates significant barriers to federal regulators in observing and understanding these markets in real time.[13]

Given that cryptocurrency markets will continue to attract retail investors and the likelihood that—whether in the US or in foreign jurisdictions—the use of cryptocurrencies will continue to scale,

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[10] Any company involved in the transfer of cryptocurrencies from one person to another typically functions as a regulated business subject to the federal Bank Secrecy Act ("BSA"). The BSA applies to "financial institutions" and is the primary federal statute that governs anti-money laundering ("AML") efforts, outside of associated criminal prohibitions. FinCEN has the authority to implement, administer, and enforce compliance with the BSA. *See* FINCEN, FIN-2013-G001, APPLICATION OF FINCEN'S REGULATIONS TO PERSONS ADMINISTERING, EXCHANGING, OR USING VIRTUAL CURRENCIES (2013), https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf, at 3.

[11] The risks related to cybersecurity in the digital asset ecosystem, while always present, have diminished over time, as the crypto community now has very effective custody and security solutions, combined with sophisticated blockchain analytics to trace assets and identify bad actors. Although it may be impossible to deter sophisticated bad actors, these tools have been relatively effective in preventing and deterring cyber-intrusions and recovering stolen assets.

[12] *See In re: Coinbase, CFTC, Dkt. No. 21-03.*

[13] As noted below, one solution would be to impose federal preemption over these markets and create a regulatory sandbox to allow the regulators to determine how best to regulate retail customers in these markets.

it is important for both lawmakers and the relevant regulators to become subject matter experts in the asset class and its corresponding use cases, and develop legislation and rules to create a regulatory framework that will allow innovative products to come to the market while protecting retail customers.

Finally, certain risks arise from crypto products with embedded derivatives, such as margined spot trading and derivatives trading. The use of leverage amplifies the potential downside for investors, which makes these products riskier for retail customers. These products are immensely popular with retail customers, but not available in the U.S. because of the lack of regulatory approval. As a result, U.S. retail (and institutional customers) trade these products on a number of non-U.S. exchanges, without the typical customer protection features deployed by regulated U.S. exchanges. If offered on a regulated basis in the U.S., we would expect to see limits on leverage (or minimum margin) combined with risk warnings, mandatory stop-loss functionality, and other measures used to address the risk to retail investors.

- **Discuss potential policy solutions to the concerns raised by this new asset class:**

First, we need new regulators to regulate new markets, new market participants and new products. I refer this Committee to the work of Professor Chris Brummer and his data addressing the lack of diverse financial regulators.[14] His work raises a number of compelling issues that are caused by the lack of diverse financial regulators, which creates serious problems from the "standpoint of participatory democracy and economic inclusion." [15] The unique aspects of the crypto market require innovative and forward-thinking regulation to both protect consumers and to foster responsible innovation. There are other uses for digital assets and blockchain; more generally, which should be made available to everyone in the U.S. To ensure that we have crypto (and blockchain) for all, we need to have leadership and staff in our financial agencies that reflects the full diversity of our country. Access to investment opportunities in the financial markets is a key mechanism to creating generational wealth in the U.S. We need regulators who will focus on diverse communities who are underbanked and lack meaningful access to these markets.[16]

Second, regulators must feel empowered to deploy the tools they currently have to allow market participants to offer both commercially attractive and reasonably regulated crypto products to U.S. retail customers. Otherwise, these customers will continue to seek out liquidity from off-shore trading platforms and exchanges that offer more attractive products, without the benefit of the customer protection benefits from the U.S. regulatory regime. This can be accomplished without additional legislation from Congress, and can bolster the existing regulatory regime in the interim.

However, in the near future we need more clarity around the regulatory characterization of crypto assets and we need to minimize the overlapping state and federal regulatory regimes. On one hand, the New York Department of Financial Service has been the leading crypto regulator over the past

[14] https://www.brookings.edu/events/where-are-the-black-financial-regulators/

[15] **What do the data reveal about (the absence of Black) financial regulators**? Available at: https://www.brookings.edu/research/what-do-the-data-reveal-about-the-absence-of-black-financial-regulators/

[16] I would also like to draw the Committee's attention to the recent article addressing the business and regulatory imperatives of senior management and board diversity at financial services firms by Douglas E. Harris. *See* **Boosting Financial Services C-Suite and Board Diversity Is A Business And Regulatory Imperative**, Futures and Derivatives Law Report, Volume 41, Issue 5, (May 2021).

six years and other regulators, particularly the CFTC and the SEC can learn from their example. However, the reliance on state money transmission licenses is difficult, unwieldy and time-consuming and creates customer protection issues for retail customers. Federal preemption, potentially starting with a cross-agency regulatory sandbox, could address many of these issues and a safe harbor could give Congress and regulators a chance to evaluate which model works best. Ultimately, Congress will need to pass legislation to create comprehensive and meaningful regulation of the crypto spot markets and to create a logical framework to determine the regulatory characterization of digital assets.

- **Looking ahead:**

As the crypto markets continue to evolve, the pace of innovation continues to increase. As a practitioner, I see two immediate areas of growth: the use of non-fungible tokens (NFTs)[17] in the gaming environment and DeFi, more generally.

The explosion in NFTs this year has centered on digital art, but I foresee a much broader use case in video games, as users will look to NFTs and other forms of tokens to allow them to utilize their assets across gaming ecosystems. This will create new cross-selling and branding opportunities for the gaming community and will lead to interesting intersections and synergies between the gaming industry and the crypto industry.

Second, crypto enables or fuels the growth in DeFi. While a number of recent FinTech innovations depend on a partnership with a regulated banking institution, DeFi seeks to disrupt this model entirely by eliminating the regulated intermediary. However, our current regulatory regime centers around regulated intermediaries, not regulated activities. I expect it will be a significant challenge for regulators to understand the deployment of smart contracts in the blockchain to enable financial transactions such as trading and lending.

Therefore, I urge Members of this Committee to continue engaging with market participants and thought leaders to learn about crypto and blockchain more generally, to ensure the regulators have the support they need to manage, support and regulate these new developments in a manner that fosters innovation, while protecting retail customers.

[17] In general terms, an NFT is a digital representation of a transaction relating to an asset (which asset may be digital or tangible), which is encapsulated in a digital token recorded on a blockchain ledger. It is an important to note that NFTs are not, as much commentary around the subject suggests, necessarily intended as a means of 'selling' or transferring legal ownership and NFTs can take a number of different legal forms. As with all digital assets, NFTs are an emerging digital asset class and there is no specific regulation yet regarding NFTs.

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Statement of

Eva Su
Analyst in Financial Economics

Before

Committee on Financial Services
Subcommittee on Oversight and Investigations
U.S. House of Representatives

Hearing on

"American on 'FIRE': Will the Crypto Frenzy Lead to Financial Independence and Early Retirement or Financial Ruin? "

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Chairman Green, Ranking Member Emmer, Members of the Subcommittee, thank you for the opportunity to testify today. My name is Eva Su, and I am an Analyst in Financial Economics at the Congressional Research Service (CRS) focusing on capital markets and securities regulation. CRS's role is to provide objective, nonpartisan research and analysis to Congress. CRS takes no position on any specific policy. Any arguments presented in my written and oral testimony are for the purposes of informing Congress, not to advocate for a particular policy outcome.

My testimony will focus on digital asset investments, investor protection, and regulatory issues relating to securities regulation and the Securities and Exchange Commission (SEC).

Overview

In recent years, financial innovation in capital markets has fostered a new asset class—digital assets—and introduced new forms of fundraising and trading. *Digital assets*, which include *cryptocurrencies*, *crypto assets,* and crypto *tokens*, among others, are digital representations of value. Regardless of the terms used to describe these assets, depending on their characteristics, some digital assets are subject to securities laws and regulations. Securities regulation generally applies to all securities, whether they are digital or traditional. The SEC is the primary regulator overseeing securities offerings, sales, and investment activities.

The current regulatory landscape for digital assets is perceived by certain industry observers to be fragmented. Multiple agencies apply different regulatory approaches to digital assets at the federal and state levels. For example, the SEC treats some digital assets as "securities," the Commodity Futures Trading Commission (CFTC) treats some digital assets as "commodities,"[1] and the Internal Revenue Service treats some digital assets as "property." State regulators oversee digital asset exchanges through state money transfer laws, and the Treasury Department's Financial Crimes Enforcement Network (FinCEN) monitors them for anti-money laundering purposes.

Digital assets have a growing presence in the financial services industry. Their increasing use in capital markets raises policy questions regarding whether changes to existing laws and regulations are warranted and, if so, when such changes should happen, what form they should take, and which agencies should take the lead. The current innovative environment is not the regulatory regime's first encounter with changing technology since its inception in the 1930s. Some technological advancements led to regulatory changes, whereas others were dealt with through the existing regime.

The general consensus is that regulatory oversight should be balanced with the need to foster financial innovation, but the basic objectives of regulation should apply to ensure market integrity and investor protection. Some believe that certain digital asset activities that may appear similar to traditional activities nonetheless require adjusted regulatory approaches to account for particular operating models that may amplify risks differently. In general, policymakers contending with major financial innovations have historically focused on addressing risk concerns while tailoring a regulatory framework that was flexible enough to accommodate evolving technology. Current developments that raise policy issues include the following:

[1] Because a cryptocurrency meets the definition of a "commodity" under the Commodity Exchange Act (CEA; P.L. 93-463), the Commodities Futures Trading Commission (CFTC) has authority over them. For example, Bitcoin is not a security but a commodity, overseen by the CFTC's general anti-fraud and manipulation oversight and enforcement authority. CFTC, *Customer Advisory: Understand the Risks of Virtual Currency Trading*, at https://www.cftc.gov/sites/default/files/idc/groups/public/@customerprotection/documents/file/customeradvisory_urvct121517.pdf. For more information, see CRS Legal Sidebar LSB10227, *CFTC and Virtual Currencies: New Court Rulings and Implications for Congress*, by Nicole Vanatko.

Digital asset "exchanges." Some industry observers perceive digital asset trading platforms as functional equivalents to the SEC-regulated securities exchanges in buying and selling digital assets. These platforms are not subject to the same level of regulation, suggesting that they may be less transparent and more susceptible to manipulation and fraud.

Digital asset custody. Custodians provide safekeeping of financial assets and are important building blocks for the financial services industry. Digital assets present custody-related compliance challenges because custodians face difficulties in recording ownership, recovering lost assets, and providing audits, among other considerations.

Digital asset exchange-traded funds (ETFs). ETFs are pooled investment vehicles that gather and invest money from a variety of investors. ETF shares can trade on securities exchanges like a stock. Currently, digital assets themselves are generally not sold on SEC-regulated national exchanges. However, if portfolios of digital assets were made available as ETFs, they may be sold on national exchanges. The SEC has not yet approved any digital asset ETFs because of market manipulation and fraud concerns.

Stablecoins in securities markets. Stablecoin is a digital asset designed to maintain a stable value by linking its value to another asset or a basket of reserve assets. In policy discussions, some suggest applying ETF regulatory frameworks to certain stablecoins; others argue for more disclosure of reserve asset breakdowns to expose potential deceptive activities.

Initial coin offerings (ICOs). ICOs as a digital asset fundraising method can be offered in many forms using existing public and private securities offerings channels. Although ICOs may be useful fundraising tools, some of them raise regulatory oversight and investor protection concerns.

What Are Digital Assets and Digital Asset Securities?

Digital assets are assets issued and transferred using distributed ledger or blockchain technology.[2] Digital assets can, depending on their individual features, be considered securities, currencies, commodities, or property under various legal and regulatory definitions. Although market participants use different terms to describe them, financial regulators have stated that—regardless of what they are called—financial activities, services, and market participants must adhere to applicable laws and regulations. In the case of digital assets, depending on their characteristics, this can include securities laws and regulations.[3]

The SEC is the primary regulator overseeing securities offers, sales, and investment activities, including when digital assets qualify as securities. However, many digital assets are not securities. In general, a security is "the investment of money in a common enterprise with a reasonable expectation of profits to be derived from the efforts of others."[4] When a digital asset meets the criteria defining a security, it would be subject to securities regulation, per existing SEC jurisdiction. For example, most of the ICOs are

[2] U.S. Securities and Exchange Commission (SEC), *Framework for "Investment Contract" Analysis of Digital Assets*, April 3, 2019, at https://www.sec.gov/files/dlt-framework.pdf. For more information on blockchain technology, see CRS Report R45116, *Blockchain: Background and Policy Issues*, by Chris Jaikaran.

[3] SEC, "Leaders of CFTC, FinCEN, and SEC Issue Joint Statement on Activities Involving Digital Assets," public statement, October 11, 2019, at https://www.sec.gov/news/public-statement/cftc-fincen-secjointstatementdigitalassets#_ftn4.

[4] For more details, see SEC, *Framework for "Investment Contract" Analysis of Digital Assets*, April 3, 2019, at https://www.sec.gov/files/dlt-framework.pdf.

securities, but Bitcoin is not a security, mainly because it does not have a central third-party common enterprise.[5]

Digital Assets as a New Asset Class

Cryptocurrencies have emerged as a growing asset class for investors, with a total market value of more than $2 trillion in May 2021, compared with around $260 billion a year before and around $20 billion in early 2017.[6] The size of the cryptocurrencies market is significant, but still relatively small, given the size of traditional asset markets. For example, the U.S. fixed income market is worth about $50 trillion and the Standard & Poor's 500 index—an index including 500 large U.S. publicly-traded companies—is worth about $35 trillion as of May 2021.[7] Some investors view crypto assets as "digital gold" due to some of their characteristics. The size of the cryptocurrencies market is comparable to the value of gold held by private investors, which is estimated to be around $3 trillion.[8]

Digital assets have reportedly experienced rapid ramp up in institutional adoption. For example, institutional investors are increasingly directly investing in digital assets or providing inflow for digital asset managers such as Grayscale, a company that provides cryptocurrency trusts that allow investors to gain exposure to digital assets without directly owning them.[9]

Institutional investors enter into digital asset markets to seek investment returns and to allocate assets to achieve perceived diversification benefits. Some of their major concerns as they begin this investing include uncertainty of the future of the technology, security and safekeeping of assets, and regulatory uncertainty.[10] As more institutional investors (including asset managers, pension funds, endowments, and insurance companies) have entered into digital asset markets, large financial institutions that offer related services (such as digital asset custody and safekeeping) have begun to expand their infrastructure to accommodate this investing.[11] The level of engagement with reputable institutional investors, and the industry's creation of new digital product and service infrastructure, may indicate that the acceptance of the digital asset market has achieved or is nearing achieving a critical mass at which digital asset investing becomes generally acceptable by a wide range of investors.

The SEC's Current Regulatory Approach

Although digital assets as a capital market innovation evolved quickly, the SEC to date has not been active in promulgating new digital-asset-specific rules. One rationale for this approach is that, because it

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5 SEC Division of Corporate Finance Director William Hinman, "Digital Asset Transactions: When Howey Met Gary (Plastic)," speech delivered at Yahoo Finance All Markets Summit: Crypto, San Francisco, CA, June 14, 2018, at https://www.sec.gov/news/speech/speech-hinman-061418.

6 CoinMarketCap, "Global Cryptocurrency Charts," at https://coinmarketcap.com/charts.

7 SIFMA, "Fixed Income Outstanding," at https://www.sifma.org/resources/research/fixed-income-chart.

8 Bernstein, *An Early Spring for Cryptoassets*, April 14, 2021, at https://www.alliancebernstein.com/library/An-Early-Spring-For-Cryptoassets.htm.

9 Kate Rooney, "Crypto Investment Firm Grayscale Sees 900% Jump In Assets to $20 billion Amid Bitcoin Frenzy," *CNBC*, January 14, 2021, at https://www.cnbc.com/2021/01/13/grayscale-sees-900percent-jump-in-inflows-as-wall-street-flocks-to-bitcoin.html.

10 Bernstein, *Cryptoassets: Discretion of the Better Part of Valor*, at https://www.bernstein.com/bernstein/email/cryptoassetsvalor.pdf.

11 Gary Silverman, "State Street to Set up Digital Unit to Capitalize on Crypto Craz," *Financial Times*, June 10, 2021, at https://www.ft.com/content/52b1b8a9-2322-496c-ac16-a847c658d186.

is uncertain how the characteristics and use of digital assets will evolve, highly prescriptive regulations could become obsolete, and potentially inefficient.[12]

The SEC's current regulatory framework that governs traditional and digital securities includes the Securities Act of 1933,[13] the Securities Exchange Act of 1934,[14] the Investment Company Act of 1940,[15] and the Investment Advisers Act of 1940.[16] It has also used existing tools and a number of initiatives besides rulemaking to address specific regulatory issues arising from certain unique digital asset features. The SEC's approach includes the following:

- **Innovation office.** The SEC created the Strategic Hub for Innovation and Financial Technology (FinHub) in 2018 to engage in financial technology, consolidate and clarify communications, and inform policy research. FinHub became a standalone office in December 2020.[17]
- **Enforcement.** The SEC has brought enforcement actions against securities token issuers and digital asset traders and asset managers, among others.
- **No-action letters.** The SEC uses no-action letters to provide relief for digital-asset-related businesses and to signal its regulatory intentions to capital markets.[18]
- **Solicitation for public input.** The SEC released a letter to the industry in March 2019 to solicit public input regarding digital asset custody.[19] The comments helped the SEC understand the challenges the industry faces and assess investor-protection risks.
- **New product approval.** The SEC could approve or reject new digital asset products. For example, the SEC has reviewed Bitcoin ETF proposals in recent years and has consistently rejected such proposals as of May 2021.[20]

Policy Issues and Related Proposals

This section discusses selected policy issues relating to: (1) cryptocurrency "exchanges;" (2) digital asset custody; (3) digital asset ETFs; (4) stablecoins; and (5) ICOs.

Digital Asset Trading Platforms: Cryptocurrency "Exchanges"

Typically, cryptocurrency transactions happen on a trading platform, often called an "exchange." These cryptocurrency exchanges are normally state-licensed enterprises that allow people to buy and sell

[12] For example, statements by Jay Baris, Partner at Shearman & Sterling LLP. See page 46 of SEC FinHub Forum transcript at Bloomberg, *Securities and Exchange Commission Fintech Forum: Distributed Ledger Technology and Digital Assets*, June 3, 2019, at https://www.bgov.com/core/news/#!/articles/PSJCX08JMDC0.

[13] P.L. 73-22.

[14] P.L. 73-291.

[15] P.L. 76-768.

[16] P.L. 76-768. For more details on the SEC's existing regulatory framework, see SEC, *The Laws That Govern the Securities Industry*, at https://www.sec.gov/answers/about-lawsshtml.html.

[17] SEC, "SEC Announces Office Focused on Innovation and Financial Technology," press release, December 3, 2020, at https://www.sec.gov/news/press-release/2020-303.

[18] No-action letters are official communications stating a regulator does not expect to take enforcement actions against particular companies in certain situations.

[19] SEC, "Engaging on Non-DVP Custodial Practices and Digital Assets," March 12, 2019, at https://www.sec.gov/investment/non-dvp-and-custody-digital-assets-031219-206.

[20] For more on ETFs, see CRS Report R45318, *Exchange-Traded Funds (ETFs): Issues for Congress*, by Eva Su.

cryptocurrencies. Often these companies are registered as money transmitters, a particular kind of money service business.[21] There are two general types of exchanges. Intermediary platforms operate similar to a traditional stock exchange in certain ways (although they are not regulated by the SEC like a stock exchange), where a third party sets prices and clears transactions. Peer-to-peer platforms eliminate the third party and allow buyers and sellers to settle prices directly. In either case, the cryptographic nature of these exchanges provide some measure of anonymity to both the buyer and seller.

Trading Platforms as Money Transmitters

Cryptocurrency exchanges are often state-registered enterprises called money transmitters.[22] Money transmitters are subject to registration and some reporting requirements from the Financial Crimes Enforcement Network (FinCEN), a bureau of the Treasury Department responsible for implementing the Bank Secrecy Act (BSA; P.L. 91-508). For example, money transmitters are required to obtain and verify customer identity and record beneficiary information for transfers of $3,000 or more, and they are required to file "Suspicious Activity Reports" for certain transactions exceeding $2,000. In 2013, FinCEN issued interpretative guidance for cryptocurrency exchanges, stating that an "administrator or exchanger that (1) accepts and transmits a convertible virtual currency or (2) buys or sells convertible virtual currency for any reason is a money transmitter under FinCEN's regulation."[23]

Trading Platforms as SEC-Registered National Securities Exchanges

Because money transmitter regulations were not designed with large-scale interstate domestic and international trading activities in mind, some argue that they are insufficient for regulating the transfer of digital assets.[24] For some observers, regulating cryptocurrency exchanges as money transmitters raises investor-protection concerns because although sometimes they could be viewed as functional equivalents to stock exchanges or other forms of markets that receive federal regulation, they are not subject to the same level of investor protection regulation as those types of exchanges and markets.[25]

This is not to say that cryptocurrency exchanges are not subject to any security or commodity exchange-related regulation. As noted previously, the CFTC has authority to bring enforcement actions for fraud and market manipulation involving commodities and derivatives. In addition, the SEC issued a statement clarifying that the online platforms for buying and selling crypto assets that qualify as securities could be unlawful.[26] The SEC took its first enforcement action against an unregistered crypto asset exchange in 2018. The agency stated that the platform "had both the user interface and underlying functionality of an

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[21] For more on money transmitters and virtual currency, see CRS Report R46486, *Telegraphs, Steamships, and Virtual Currency: An Analysis of Money Transmitter Regulation*, by Andrew P. Scott.

[22] See CRS Report R46486 by Andrew Scott.

[23] Financial Crimes Enforcement Network (FinCEN), "Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies," March 18, 2013, at https://www.fincen.gov/resources/statutes-regulations/guidance/application-fincens-regulations-persons-administering.

[24] Peter Van Valkenburgh, "The Need for a Federal Alternative to State Money Transmission Licensing," *Coin Center Report*, January 2018, at https://coincenter.org/files/2018-01/federalalternativev1-1.pdf.

[25] A national securities exchange is a securities exchange that has registered with the SEC under §6 of the Securities Exchange Act of 1934. See SEC Fast Answers, *National Securities Exchanges*, at https://www.sec.gov/fast-answers/divisionsmarketregmrexchangesshtml.html.

[26] The SEC states that "if a platform offers trading of digital assets that are securities and operates as an 'exchange,' as defined by the federal securities laws, then the platform must register with the SEC as a national securities exchange or be exempt from registration." For more details, see SEC, "Statement on Potentially Unlawful Online Platforms for Trading Digital Assets," March 7, 2018, at https://www.sec.gov/news/public-statement/enforcement-tm-statement-potentially-unlawful-online-platforms-trading.

online national securities exchange and was required to register with the SEC or qualify for an exemption," but appeared to have failed to do so.[27]

Cryptocurrency "Exchanges" Versus National Securities Exchanges

The differences between cryptocurrency exchange investor protections under current regulation and what they would be if most or all were regulated as SEC-regulated national securities exchanges could include requirements to increase transparency, fairness, and efficiency.[28] These are principles guiding the national securities exchange regulation, yet they are perceived by some as lacking for cryptocurrency exchanges' current practices. Downsides of providing heightened regulation may include compliance costs, hindrance of financial innovation, and competitive pressure for resources and talent internationally. This section illustrates the scale of the risk mitigation challenges and the types of risks that may occur at cryptocurrency exchanges.

Nontransparent and Fraudulent Activities

Many cryptocurrency exchanges (including those that generally allow trading of digital assets that are not securities, and thus not regulated by the SEC) are reportedly exaggerating their volumes to attract more participation.[29] Many investors are perceived to have no idea whether the trading volume and prices reflect real activities or market manipulation. To take the more frequently studied digital asset Bitcoin for example,[30] one study shows that 95% of Bitcoin's trading volume displayed on digital asset price and volume aggregator CoinMarketCap.com is either fake or non-economic in nature.[31] Another widely cited academic study illustrates the scale of potential damage that digital asset market manipulations could create, underlining the investor-protection concerns in the digital asset space. The study argues that a single market manipulator likely fueled half of Bitcoin's 2017 price surge that pushed its price close to $20,000.[32] The activities were reportedly carried out through the largest cryptocurrency exchange at that time, Bitfinex, and used stablecoin Tether to boost the demand for Bitcoin.[33]

[27] SEC, "SEC Charges EtherDelta Founder With Operating an Unregistered Exchange," press release, November 8, 2018, at https://www.sec.gov/news/press-release/2018-258.

[28] For a more detailed list of principles relating to trading, see International Organization of Securities Commissions, *Methodology for Assessing Implementation of the IOSCO Objectives and Principles of Securities Regulation*, May 2017, at https://www.iosco.org/library/pubdocs/pdf/IOSCOPD562.pdf.

[29] Olga Kharif, "On Crypto Exchanges, The Trades Don't Always Add Up," *Bloomberg*, July 25, 2019, at https://www.bloomberg.com/news/articles/2019-07-25/on-crypto-exchanges-the-trades-don-t-always-add-up.

[30] Bitcoin is a commodity rather than a security and is under the CFTC's general anti-fraud and manipulation oversight and enforcement authority. CFTC, *Customer Advisory: Understand the Risks of Virtual Currency Trading*, at https://www.cftc.gov/sites/default/files/idc/groups/public/@customerprotection/documents/file/customeradvisory_urvct121517.pdf. The SEC generally regulates securities transactions and their related intermediaries. The SEC does not have direct oversight of transactions in non-security currencies or commodities. SEC Chairman Jay Clayton, *Chairman's Testimony on Virtual Currencies: The Roles of the SEC and CFTC*, February 6, 2018, at https://www.sec.gov/news/testimony/testimony-virtual-currencies-oversight-role-us-securities-and-exchange-commission.

[31] Bitwise Asset Management, *Presentation to The U.S. Securities and Exchange Commission*, March 19, 2019, at https://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf.

[32] John Griffin and Amin Shams, *Is Bitcoin Really Un-Tethered?* SSRN, October 28, 2019, at https://ssrn.com/abstract=3195066.

[33] Philip Rosenstein, "$1.4T Bitcoin Manipulation Case Preposterous, Tether Says," *Law360*, November 15, 2019, at https://www.law360.com/articles/1220333/; and New York Attorney General, "Attorney General James Announces Court Order Against 'Crypto' Currency Company Under Investigation For Fraud," press release April 25, 2019, at https://ag.ny.gov/press-release/2019/attorney-general-james-announces-court-order-against-crypto-currency-company.

Network Congestions and Market Inefficiencies

Unlike national securities exchanges for stocks, cryptocurrency exchanges frequently face network congestions or trading halts, leading some to question the readiness of these exchanges to serve a growing marketplace. For example, during a rapid digital asset selloff and recovery in May 2021, multiple major cryptocurrency exchanges reported technical issues, further intensifying market stress during a volatile time of increased trading.[34] These market disruptions could generate investor protection concerns due to investors' inability to get in and out of their investment positions in a timely manner, or investors' inability to seek best execution for their trades—often common features of a fair and efficient trading system.

Policy Proposals Relating to Cryptocurrency "Exchanges"

Many observers have called for a more enhanced regulatory framework to govern the cryptocurrency exchanges. Given the alleged scale of fraud, scams, and market efficiency issues, some have questioned whether digital asset trading warrants more regulatory safeguards that protect investors and promote more efficient market operations.[35] It is difficult to predict the extent to which an SEC-regulated digital asset national exchange would have mitigated the market manipulations, or if the SEC's regulatory framework is the best fit for addressing all the digital-asset-trading-related policy concerns. For example, the CFTC has the authority to regulate for fraud and market manipulation in markets for digital assets that qualify as commodities under the Commodities Exchange Act (P.L. 74-675). Still, cryptocurrency exchanges under the current operating environment appear vulnerable to misconduct.[36] A finance professor with a background in forensics suggested that "years from now, people will be surprised to learn investors handed over billions to people they didn't know and who faced little oversight."[37]

SEC Chair Gary Gensler has asked Congress to provide more clarity regarding authority over cryptocurrency exchanges. At a congressional hearing in May 2021, Gensler voiced concerns regarding the lack of a regulatory framework for cryptocurrency exchanges.[38] He stated that the lack of oversight represents a "gap in our system" that denies traders basic investor protection.[39] Gensler emphasized the

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[34] Daniel Palmer, "Top Crypto Exchanges See Technical Issues Amid Market Crash," *Coindesk*, May 19, 2021, at https://www.coindesk.com/top-crypto-exchanges-see-technical-issues-amid-market-crash; and Robert Hart, "Leading Crypto Exchanges Down As Bitcoin and Ether Plummet," Forbes, May 19, 2021, at https://www.forbes.com/sites/roberthart/2021/05/19/leading-crypto-exchanges-down-as-bitcoin-and-ether-plummet.

[35] For example, former SEC Chairman Jay Clayton reportedly commented that "if [investors] think there's the same rigor around that price discovery as there is on the Nasdaq or New York Stock Exchange ... they are sorely mistaken ... we have to get to a place where we can be confident that trading is better regulated." Jeff Cox, "SEC Chairman Says He Doesn't See Bitcoin Trading on a Major Exchange Until It Is 'Better Regulated,'" CNBC, September 20, 2019, at https://www.cnbc.com/2019/09/19/jay-clayton-delivering-alpha.html. For more discussions on regulatory concerns, see Office of the New York State Attorney General, *A.G. Schneiderman Launches Inquiry Into Cryptocurrency "Exchanges,"* April 17, 2018, at https://ag.ny.gov/press-release/2018/ag-schneiderman-launches-inquiry-cryptocurrency-exchanges.

[36] Office of the New York State Attorney General, *A.G. Schneiderman Launches Inquiry Into Cryptocurrency "Exchanges,"* April 17, 2018, at https://ag.ny.gov/pressrelease/ag-schneiderman-launches-inquiry-cryptocurrency-exchanges.

[37] Matthew Leising and Matt Robinson, "Lone Bitcoin Whale Likely Fueled 2017 Price Surge, Study Says," *Bloomberg*, November 4, 2019, at https://www.bloomberg.com/news/articles/2019-11-04/lone-bitcoin-whale-likely-fueled-2017-price-surge-study-says.

[38] SEC Chair Gary Gensler stated, "right now the exchanges trading these crypto assets do not have a regulatory framework ... right now there is not a market regulator around these crypto exchanges, and thus there's really not protection against fraud or manipulation." Bloomberg transcript for House Financial Services Committee hearing *Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide, Part III*, May 6, 2021, at https://www.bgov.com/core/news/#!/articles/QSQU5G8JMDC0.

[39] Steven Dennis and Jesse Hamilton, "Crypto's Wild Ride Leaves Washington Grasping at What to Do," *Bloomberg*, May 19, 2021, at https://www.bloomberg.com/news/articles/2021-05-19/crypto-s-wild-ride-leaves-washington-grasping-at-how-to-

importance of bringing the same protections found in traditional securities markets to cryptocurrency exchanges. He added that "none of the exchanges trading crypto tokens has registered yet as an exchange with the SEC. Altogether, this has led to substantially less investor protection than in our traditional securities markets, and to correspondingly greater opportunities for fraud and manipulation."[40]

Digital Asset Custody Services

Custodians provide safekeeping of financial assets. They are financial institutions that do not have legal ownership of assets but are tasked with holding and securing assets, among other administrative functions.[41] Both securities regulators and banking regulators have developed custody rules to impose requirements designed to protect client assets from the possibility of being lost or misappropriated.

Digital Asset Securities Custody

Digital asset securities custody has attracted regulatory attention because the SEC custody rules could pose unique challenges for custodians of digital assets. The custody rules were developed for traditional assets, which are easier than crypto assets to secure and produce tangible tracks of physical existence or records. Digital assets generally lack physical existence or records produced by intermediaries, as seen in traditional assets such as gold or bank accounts. Common practice in the digital asset industry so far focuses on safeguarding private keys—unique numbers assigned mathematically to digital asset transactions to confirm asset ownership.[42] This practice raises the question of how possession or control of a digital asset should be defined for regulatory purposes. Some believe that the digital asset custody definition should go beyond the verification of the keys to incorporate holistic custody views.[43]

Potential Amendments to the Custody Rule

On July 8, 2019, the SEC and Financial Industry Regulatory Authority (FINRA), a self-regulatory organization, issued a joint statement to outline considerations for digital asset securities custody.[44] They acknowledged the challenges of applying custody requirements to digital assets and stated that there were initiatives underway to solicit input from market participants that could help develop new ways to respond.

[40] SEC Chair Gary Gensler, *Testimony Before the Subcommittee on Financial Services and General Government, U.S. House Appropriations Committee*, May 26, 2021, at https://www.sec.gov/news/testimony/gensler-2021-05-26.

[41] §17(f) of the Investment Company Act and 17 C.F.R. §§270.17f-1–270.17f-7; 17 C.F.R. §275.206(4)-2 and the SEC Customer Protection Rule, or Rule 15c3-3, under the Securities Exchange Act of 1934 (P.L. 73-291).

[42] Some financial institutions offer digital asset custody services. These service providers also consider the control of the private keys as the control of the digital assets. European Financial Reporting Advisory Group, *EFRAG Research Project on Crypto-Assets Analysis of Scope – Initial Coin Offerings and Custodial Services*, May 22, 2019, at https://www.efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FMeeting%20Documents%2F1904050854507613%2F06-01%20-%20TEG%20Issues%20paper%20on%20scope%20of%20crypto-assets.pdf.

For more on the general background of private keys and custody requirements, see Debevoise & Plimpton LLP, *Custody of Digital Assets: Centralized Safekeeping of Decentralized Assets under the Investment Advisers Act*, December 17, 2018, at https://www.debevoise.com/~/media/files/insights/publications/2018/12/20181217_custody_of_digital_assets.pdf; and Fidelity Digital Assets, *Custody in the Age of Digital Assets*, October 2018, at https://www.fidelitydigitalassets.com/bin-public/060_www_fidelity_com/documents/FDAS/custody-in-the-age-of-digital-assets.pdf.

[43] Swen Werner, Managing Director, Global Product Manager at State Street, "What Is Custody of Digital Assets?" *Global Custodian*, at https://www.globalcustodian.com/blog/custody-digital-assets/.

[44] SEC Division of Trading and Markets and FINRA Office of General Counsel, *Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities*, July 8, 2019, at https://www.sec.gov/news/public-statement/joint-staff-statement-broker-dealer-custody-digital-asset-securities.

establish "possession or control" for digital asset securities.[45] On December 23, 2020, the SEC issued a statement and request for comment regarding digital asset securities custody.[46] In the request, the SEC asked about digital asset custody best practices, processes, risk disclosure, and risk implications, among other things. Amendments to the custody rules have been included in the SEC's 2021 rulemaking agenda.[47]

Digital Asset ETFs

ETFs are pooled investment vehicles that gather and invest money from a variety of investors.[48] ETFs combine features of both mutual funds and stocks and can trade on national exchanges. Some industry practitioners hope that the ETF structure could incorporate digital assets.[49] As mentioned previously, some digital assets are securities subject to securities laws and regulations. But digital assets could also be part of ETF products which would be subject to applicable securities regulation, even if the underlying assets are not securities. The proposed Bitcoin ETFs are the most prominent example of such a structure.[50] Although Bitcoin is not a security,[51] Bitcoin ETFs would be securities products with value linked to the underlying Bitcoins and are subject to securities regulation, including the Investment Company Act of 1940 and Investment Advisers Act of 1940.

The SEC's Bitcoin ETF Approval Status

Reportedly, around 10 cryptocurrency ETF applications were awaiting SEC approval as of May 2021.[52] The SEC has not yet approved any cryptocurrency ETFs because of market manipulation and fraud concerns. The SEC repeatedly stated in its rejections that Bitcoin ETF proposals did not meet standards governing national securities exchanges.[53] Specifically, the SEC stated that the proposals have not met the requirements in Section 6(b)(5) of the Exchange Act that order national exchanges, which could potentially list Bitcoin ETF shares, to be "designed to prevent fraudulent and manipulative acts and practices."[54]

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[45] SEC Division of Trading and Markets and FINRA Office of General Counsel, *Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities*, July 8, 2019.

[46] SEC, "SEC Issues Statement and Requests Comment Regarding the Custody of Digital Asset Securities by Special Purpose Broker-Dealers," press release, December 23, 2020, at https://www.sec.gov/news/press-release/2020-340.

[47] Office of Management and Budget, *Agency Rule List - Spring 2021*, at https://www.reginfo.gov/public/do/eAgendaMain.

[48] For more on ETFs, see CRS Report R45318, *Exchange-Traded Funds (ETFs): Issues for Congress*, by Eva Su.

[49] David Weisberger, "The Case for a Bitcoin ETF," *Coindesk*, November 23, 2019, at https://www.coindesk.com/the-case-for-a-bitcoin-etf.

[50] Bitcoin exchange-traded funds (ETFs) are funds that are backed by Bitcoins. They allow investors to gain Bitcoin exposure through the funds instead of trading Bitcoin itself. For more on ETFs, see CRS Report R45318, *Exchange-Traded Funds (ETFs): Issues for Congress*, by Eva Su.

[51] SEC Division of Corporate Finance Director William Hinman, "Digital Asset Transactions: When Howey Met Gary (Plastic)," speech delivered at Yahoo Finance All Markets Summit: Crypto, San Francisco, CA, June 14, 2018, at https://www.sec.gov/news/speech/speech-hinman-061418.

[52] Katherine Greifeld and Claire Ballentine, "Bitcoin ETF Approval Odds Grow Longer After Gensler Critique," *Bloomberg*, May 10, 2021, at https://www.bloomberg.com/news/articles/2021-05-10/bitcoin-etf-approval-odds-grow-longer-after-gensler-critique.

[53] For example, see SEC, *Release No. 34-87267, Self-Regulatory Organizations; NYSE Arca, Inc.; Order Disapproving a Proposed Rule Change, as Modified by Amendment No. 1, Relating to the Listing and Trading of Shares of the Bitwise Bitcoin ETF Trust Under NYSE Arca Rule 8.201-E*, October 9, 2019, at https://www.sec.gov/rules/sro/nysearca/2019/34-87267.pdf.

[54] 15 U.S.C. §78f(b)(5).

Bitcoin ETF Related Policy Debates

While U.S. regulators have been more cautious in approving digital asset ETFs, other countries have been more permissive. For example, in Canada, multiple Ethereum and Bitcoin ETFs have received regulatory approval and popular market reception.[55] The SEC articulated its rationale in a 2018 staff letter that listed challenges related to a Bitcoin ETF. In addition to market manipulation concerns, major Bitcoin ETF challenges included valuation and pricing, custody, and liquidity.[56] Bitcoin ETFs also have supporters who hope to see cryptocurrency ETFs in the United States. One institutional investor argues that ETFs provide a familiar and convenient way for investors to invest in digital assets, enabling them to participate in digital asset trading and partake in the potential financial gains brought by technological advancements, despite the potential trade-offs with respect to investor protection.[57]

Stablecoins

A *stablecoin* is a digital asset designed to maintain a stable value by linking its value to another asset or a basket of reserve assets, typically collateralized by fiat currencies or facilitated by algorithms.[58] This section selected two examples to illustrate potential stablecoin regulation (1) using a perceived ETF regulatory structure; and (2) through an enhanced mandatory disclosure process for stablecoins, especially regarding their reserve asset portfolios.

Facebook-Backed Diem (Formally Libra) and Its Perceived ETF Structure

The Facebook-backed stablecoin Libra, which was later renamed Diem,[59] has attracted congressional attention since its announcement on June 18, 2019. The Diem Association, the nonprofit that oversees Diem's development, reportedly planned to launch a U.S. dollar stablecoin pilot in 2021.[60] At related congressional hearings in 2019, Facebook received multiple questions regarding whether Libra is an ETF and how it should be regulated.[61] These questions arose because to create the stablecoin, Libra would be backed by reserve assets, including bank deposits and short-term government securities.[62] New Libra

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[55] Nate DiCamillo, "Canada Approves Three Ethereum ETFs in One Day," *Coindesk*, April 16, 2021, at https://www.coindesk.com/purpose-investments-gets-approval-to-launch-first-ether-etf-in-canada.

[56] SEC staff letter, *Engaging on Fund Innovation and Crypto-currency Related Holdings*, January 18, 2018, at https://www.sec.gov/divisions/investment/noaction/2018/cryptocurrency-011818.htm. Liquidity refers to the ease of buying and selling securities without affecting the price.

[57] Jordan Clifford, "The Road to a Bitcoin ETF," *Medium*, August 14, 2018, at https://medium.com/scalar-capital/the-road-to-a-bitcoin-etf-4364b07a7e15.

[58] Financial Stability Board, *Regulatory Issues of Stablecoins*, October 18, 2019, at https://www.fsb.org/wp-content/uploads/P181019.pdf.

[59] Andrew Ackerman, "Facebook-Backed Digital Currency Project Revamps to Address U.S. Regulators' Concerns," *Wall Street Journal*, May 12, 2021, at https://www.wsj.com/articles/facebook-backed-digital-currency-project-revamps-to-address-u-s-regulators-concerns-11620854340.

[60] Ryan Browne, "Facebook-backed Diem aims to launch digital currency pilot later this year," *CNBC*, April 20, 2021, at https://www.cnbc.com/2021/04/20/facebook-backed-diem-aims-to-launch-digital-currency-pilot-in-2021.html.

[61] U.S. Congress, House Committee on Financial Services, *Examining Facebook's Proposed Cryptocurrency and Its Impact on Consumers, Investors, and the American Financial System*, hearing, 116th Cong., 1st sess., July 17, 2019, at https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=404001; and U.S. Congress, Senate Committee on Banking, Housing, and Urban Affairs, *Examining Facebook's Proposed Digital Currency and Data Privacy Considerations*, 116th Cong., 1st sess., July 16, 2019, S.Hrg.116-71 (Washington: GPO, 2019), at https://www.banking.senate.gov/hearings/examining-facebooks-proposed-digital-currency-and-data-privacy-considerations.

[62] Libra Association, *Libra White Paper*, 2019, at https://libra.org/en-US/white-paper.

tokens could only be created or destroyed by authorized sellers. Some industry practitioners argue that Libra's proposed operational structure is similar to the creation and redemption process used by ETFs.[63]

Facebook acknowledged at a House hearing that Libra uses operational mechanisms that are similar to ETFs, but stated its view that it is still a payment tool and not an investment vehicle.[64] Diem's design was based on Libra, but incorporated updates. Diem's core structure for creating a reserve asset portfolio and designating dealers continues to somewhat resemble the ETF structure.[65] If deemed an ETF, Diem must comply with the SEC's regulatory regime governing securities, investment advisors, and investment companies. SEC approval would be required to launch the project. The SEC was reportedly evaluating whether such structure makes it an ETF.[66]

Tether's Reserve Asset Portfolio: Could Mandatory Disclosures Be Helpful?

The largest stablecoin, Tether, was created in 2014 with the intention to be fully backed by fiat currency.[67] Tether's prospectus states that "each tether issued into circulation will be backed in a one-to-one ratio with the equivalent amount of corresponding fiat currency held in reserves by Hong Kong based Tether Limited."[68] It raised investor protection concerns because investigations revealed that it was not *fully backed* at all times. The New York attorney general's office charged Tether and its affiliated trading platform Bitfinex $18.5 million to settle a case in 2021, claiming that the stablecoin overstated its reserves and covered up losses.[69] Tether and Bitfinex denied any wrongdoing, but paid the fine and agreed to provide quarterly disclosures of reserve assets. At Tether's first disclosure of its reserves breakdown,[70] investors learned for the first time that a large portion of Tether's reserves was in unspecified commercial paper, a type of short-term debt instrument.[71] With Tether's market valuation achieving around $60 billion as of June 2, 2021, some observers worry that potential deceptive activities may create widespread harm to investors.[72] The usefulness of Tether's disclosure of reserve asset breakdowns, which helped investors to identify potential deceptive activities, drew discussions about whether such disclosure should be more

[63] Dave Nagid, "Most Interesting ETF Filing Ever: Libra," ETF.com, June 25, 2019, at https://www.etf.com/sections/blog/most-interesting-etf-filing-ever-libra; and Izabella Kaminska, "Treating Stablecoins Like ETFs," *Financial Times*, December 9, 2019, at https://www.ft.com/content/2dd03db3-67c4-4ccc-8a9c-1439a1b24fae. For more details on ETF structure and operations, see CRS Report R45318, *Exchange-Traded Funds (ETFs): Issues for Congress*, by Eva Su.

[64] U.S. Congress, House Committee on Financial Services, *Examining Facebook's Proposed Cryptocurrency and Its Impact on Consumers, Investors, and the American Financial System*, hearing, 116th Cong., 1st sess., at https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=404001.

[65] Diem, *White Paper v2.0*, at https://www.diem.com/en-us/white-paper.

[66] Dave Michaels and Lalita Clozel, "SEC Weighs Whether to Regulate Facebook's Libra," *Wall Street Journal*, July 13, 2019, at https://www.wsj.com/articles/sec-weighs-whether-to-regulate-facebooks-libra-11563015601.

[67] For size of Tether, see CoinMarketCap at https://coinmarketcap.com.

[68] Tether, *Tether: Fiat Currencies on the Bitcoin Blockchain*, at https://tether.to/wp-content/uploads/2016/06/TetherWhitePaper.pdf.

[69] New York Attorney General Letitia James, *Attorney General James Ends Virtual Currency Trading Platform Bitfinex's Illegal Activities in New York*, February 23, 2021, at https://ag.ny.gov/press-release/2021/attorney-general-james-ends-virtual-currency-trading-platform-bitfinexs-illegal; and Olga Kharif, "Bitfinex Settles New York Probe Into Tether, Hiding Losses," *Bloomberg*, February 23, 2021, at https://www.bloomberg.com/news/articles/2021-02-23/crypto-exchange-bitfinex-settles-with-new-york-to-end-probe.

[70] Tether, *Reserve Breakdown at March 31, 2021*, at https://tether.to/wp-content/uploads/2021/05/tether-march-31-2021-reserves-breakdown.pdf.

[71] Jemima Kelly, "Tether Says Its Reserves are Backed by Cash to The Tune of … 2.9%," *Financial Times*, May 14, 2021, at https://www.ft.com/content/529eb4e6-796a-4e81-8064-5967bbe3b4d9.

[72] Jacob Silverman, "Is Tether Just a Scam to Enrich Bitcoin Investors?" *New Republic*, January 13, 2021, at https://newrepublic.com/article/160905/tether-cryptocurrency-scam-enrich-bitcoin-investors.

broadly mandated for other stablecoins. Others worry that additional disclosures may increase compliance costs and hinder innovation.

Initial Coin Offerings

Businesses raise funding from capital markets through securities offerings, such as stocks, bonds, and digital assets. ICOs are a new fundraising mechanism in which projects sell their digital tokens in exchange for fiat currency (e.g., dollars) or cryptocurrency (e.g., Bitcoin).[73] An early study from Satis Group, a digital asset advisory firm, found that 81% of ICOs were scams and another 11% failed for operational reasons.[74] In addition, some digital asset companies offering securities do not comply with SEC registration and disclosure obligations, potentially affecting investors' ability to understand their risk exposures.[75]

Industry practitioners have been increasingly aware of the existing securities regulations and compliance requirements. For example, the industry has transitioned to use the term *security token offerings* (STOs) to describe ICOs.[76] This change of terminology reflects the industry's acceptance that many ICOs are securities offerings and thus subject to securities laws and regulations.[77]

Policy Proposals to Provide Regulatory Clarity on the Definition of "Security"

As previously mentioned, a security is "the investment of money in a common enterprise with a reasonable expectation of profits to be derived from the efforts of others."[78] When a digital asset meets the criteria defining a security, it would be subject to securities regulation. But sometimes, digital asset issuers do not immediately understand if their assets are securities or not. Multiple policy proposals exist to provide clarity regarding how the *securities* definition would apply to digital assets.[79]

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[73] SEC, "Investor Bulletin: Initial Coin Offerings," July 25, 2017, at https://www.sec.gov/oiea/investor-alerts-and-bulletins/ib_coinofferings.

[74] Satis Group, *Crypto-asset Market Coverage Initiation: Network Creation*, July 11, 2018, at https://research.bloomberg.com/pub/res/d28giW28tf6G7T_Wr77aU0gDgFQ.

[75] Financial Industry Regulatory Authority, *Initial Coin Offerings (ICOs)—What to Know Now and Time-Tested Tips for Investors*, Investor Alert, August 16, 2018, at http://www.finra.org/investors/alerts/initial-coin-offerings-what-to-know.

[76] Roger Aitken, "After 'Crypto's Winter', ICOs Growing Less But Maturing With Shift To STOs," *Forbes*, March 8, 2019, at https://www.forbes.com/sites/rogeraitken/2019/03/08/after-cryptos-winter-icos-growing-less-but-maturing-with-shift-to-stos/#3e666a687bcf.

[77] Terminologies change or evolve relatively rapidly in the digital assets industry. Other illustrative examples include Initial Exchange Offerings (IEOs), which are ICOs launched exclusively on digital trading platforms. SEC Division of Corporate Finance Director William Hinman, "Digital Asset Transactions: When Howey Met Gary (Plastic)," speech delivered at Yahoo Finance All Markets Summit: Crypto, San Francisco, CA, June 14, 2018, at https://www.sec.gov/news/speech/speech-hinman-061418.

[78] For more details, see SEC, *Framework for "Investment Contract" Analysis of Digital Assets*, April 3, 2019, at https://www.sec.gov/files/dlt-framework.pdf.

[79] For example, the Token Taxonomy Act of 2021 (H.R. 1628) proposes to reduce the purview of securities regulation by excluding certain digital tokens from the definition of a security, thus excluding them from securities regulation. The Managed Stablecoins are Securities Act of 2019 (H.R. 5197 in the 116th Congress), on the other hand, proposed to broaden the purview of securities regulation by amending the statutory definition of the term *security* to include a new category of securities called "managed stablecoins," thus subjecting such stablecoins to securities regulation.

COIN CENTER

TESTIMONY OF

Peter Van Valkenburgh

Director of Research of Coin Center

BEFORE THE

United States House of Representatives Committee on Financial Services
Subcommittee on Oversight and Investigations

"America on "FIRE": Will the Crypto Frenzy Lead to Financial Independence and Early Retirement or Financial Ruin?"

June 30, 2021

Thank you for the invitation to speak with you today. My name is Peter Van Valkenburgh. I'm the Director of Research at Coin Center, an independent nonprofit focused on cryptocurrency public policy.[1]

The Bitcoin network has been processing transactions for longer than Uber has been offering rides.[2] Bitcoin and other cryptocurrencies have enabled 3.1 billion transactions in the last 10 years, securing over 2 Trillion dollars in value.[3]

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[1] Coin Center is an independent nonprofit research and advocacy center focused on the public policy issues facing cryptocurrency technologies such as Bitcoin. Our mission is to build a better understanding of these technologies and to promote a regulatory climate that preserves the freedom to innovate using open blockchain technologies.We do this by producing and publishing policy research from respected academics and experts, educating policymakers and the media about blockchain technology, and by engaging in advocacy for sound public policy.

[2] Uber was founded in March of 2009. Bitcoin's white paper describing the technology was released in October of 2008 and the peer-to-peer network began processing transactions in January of 2009. *See*: Bitcoin Genesis Block, Block 0, January 3, 2009, 12:15 CST, available at: https://www.blockchain.com/btc/block/000000000019d6689c085ae165831e934ff763ae46a2a6c172b3f1b60a8ce26f.

[3] Matt Cutler, "When One Billion Ethereum Transactions?" *blocknative*, February 24, 2020, https://blog.blocknative.com/blog/one-billion-transactions?hs_preview=uvqGqHNh-25763534560.

If cryptocurrencies were unregulated to this day, wouldn't that be an incredible failure of our regulatory system? As I'll outline, it's not a failure because over the last 10 years, cryptocurrencies have been regulated.

Some of that regulation comes from the technology itself: the scarcity of bitcoin, a total supply of only 21 million, is not preserved by the good will and honesty of the participants, nor by oversight from a corporate board of directors, nor by a law or regulation. It's secured by a transparent, peer-to-peer accounting technology—a public blockchain—that makes fraud trivially cheap to detect and absurdly expensive to commit.[4]

But much regulation has also come from the federal and state governments.[5] The on ramps and off ramps, the places where people buy and sell bitcoins for dollars and safekeep them, are heavily regulated.

[4] *See, generally*: Peter Van Valkenburgh, "Open Matters: Why Permissionless Blockchains are Essential to the Future of the Internet," Coin Center, December 2016, https://www.coincenter.org/open-matters-why-permissionless-blockchains-are-essential-to-the-future-of-the-internet/.

[5] *See, generally*: Jerry Brito, "Is bitcoin regulated?" *Coin Center*, January 13, 2015, https://www.coincenter.org/education/blockchain-101/is-bitcoin-regulated/.

They are state licensed money transmitters[6] or else they are chartered banks or trust companies.[7] Before offering any services to Americans they must prove minimum capital requirements, post bonds, and open their doors to yearly examinations.[8]

They are also classified as Financial Institutions under the Bank Secrecy Act[9]: they must register with FinCEN, know their customers, and share the details of suspicious activity with law enforcement.[10]

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[6] *See, generally*: Marco Santorini, "What is Money Transmission and Why Does it Matter?" *Coin Center*, April 7, 2015, https://www.coincenter.org/education/policy-and-regulation/money-transmission/; *See also*, e.g. Coinbase license list, accessed June 28, 2021, https://www.coinbase.com/legal/licenses.

[7] *See, e.g.*: "Square Receives Conditional FDIC Approval for Industrial Loan Charter Application for Deposit Insurance," Square Blog, March 18, 2020, https://squareup.com/us/en/press/ilc-update; "Kraken Wins Bank Charter Approval," Kraken Blog, September 16, 2020, https://blog.kraken.com/post/6241/kraken-wyoming-first-digital-asset-bank/; Richard Loconte, "DFS AUTHORIZES GEMINI TRUST COMPANY TO PROVIDE ADDITIONAL VIRTUAL CURRENCY PRODUCTS AND SERVICES," *New York Department of Financial Services*, Press Release, May 14, 2018, https://www.dfs.ny.gov/reports_and_publications/press_releases/pr1805141.

[8] Each of these regulatory forms has different specific requirements for prudential standards. Coin Center supports the creation of a national alternative to the differing standards found in state-by-state licensing. *See*: Peter Van Valkenburgh, "The Need for a Federal Alternative to State Money Transmission Licensing," *Coin Center*, January 2018, https://www.coincenter.org/the-need-for-a-federal-alternative-to-state-money-transmission-licensing/. Additionally, Coin Center supports efforts from the OCC to create consumer protection standards for federally chartered fintech banks including those that deal in cryptocurrencies. *See*: Peter Van Valkenburgh, "Comments to the Office of the Comptroller of the Currency on Exploring Special Purpose National Bank Charters for Fintech Companies," *Coin Center*, April 13, 2017, https://www.coincenter.org/comments-to-the-office-of-the-comptroller-of-the-currency-on-exploring-special-purpose-national-bank-charters-for-fintech-companies/.

[9] "Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies," *Financial Crimes Enforcement Network*, FIN-2013-G001, March 18, 2013, https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf; and "Application of FinCEN's Regulations to Certain Business Models Involving Convertible Virtual Currencies," *Financial Crimes Enforcement Network*, FIN-2019-G001, May 9, 2019, https://www.fincen.gov/sites/default/files/2019-05/FinCEN%20Guidance%20CVC%20FINAL%20508.pdf.

[10] Requirements for cryptocurrency exchanges are the same as those for typical money services businesses. Those requirements are described in the implementing regulations of the Bank Secrecy Act, 31 U.S.C. § 5312.

Cryptocurrencies like bitcoin and ethereum are commodities[11] but many crypto assets meet the flexible definition of an "investment contract," a type of security, which means their issuance and their trading are regulated by the SEC.[12] Cryptocurrency derivatives are regulated by the CFTC.[13]

Finally, anyone who markets a cryptocurrency service or tool that is deceptively advertised or fraudulent is liable under various laws enforced by the CFPB, the FTC, the SEC, the CFTC, and state attorneys general.[14]

And the results of all this regulation speak for themselves, in 2020 only 0.34% of all cryptocurrency transaction volume involved a criminal sender or recipient.[15] Despite several high profile hacks of overseas exchanges, no major American exchange has suffered a

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[11] Neeraj Agrawal, "SEC Chairman Clayton: Bitcoin is not a security," *Coin Center*, April 27, 2018, https://www.coincenter.org/sec-chairman-clayton-bitcoin-is-not-a-security/; William Hinman, "Digital Asset Transactions: When Howey Met Gary (Plastic)," *Remarks at the Yahoo Finance All Markets Summit: Crypto*, San Francisco, CA, June 14, 2018, https://www.sec.gov/news/speech/speech-hinman-061418; "CFTC Statement on Self-Certification of Bitcoin Products by CME, CFE and Cantor Exchange," *Commodity Futures Trading Commission*, December 1, 2017, https://www.cftc.gov/PressRoom/PressReleases/7654-17.

[12] *See, generally*: Peter Van Valkenburgh, "Framework for Securities Regulation of Cryptocurrencies," *Coin Center*, August 2018, https://www.coincenter.org/framework-for-securities-regulation-of-cryptocurrencies/.

[13] "CFTC Statement on Self-Certification of Bitcoin Products by CME, CFE and Cantor Exchange," *Commodity Futures Trading Commission*, December 1, 2017, https://www.cftc.gov/PressRoom/PressReleases/7654-17.

[14] *See, generally*: "Unfair, Deceptive, or Abusive Acts or Practices," Consumer Financial Protection Board Consumer Laws and Regulations, https://files.consumerfinance.gov/f/documents/102012_cfpb_unfair-deceptive-abusive-acts-practices-udaaps_procedures.pdf; and "A Brief Overview of the Federal Trade Commission's Investigative, Law Enforcement, and Rulemaking Authority," Federal Trade Commission, May 2021, https://www.ftc.gov/about-ftc/what-we-do/enforcement-authority (regarding "unfair or deceptive acts or practices"); *and see, e.g.,* "SEC Charges Three Individuals in Digital Asset Fraud," *Securities and Exchange Commission*, Press Release, February 1, 2021, https://www.sec.gov/news/press-release/2021-22, "Operators of Bitcoin Mining Operation Butterfly Labs Agree to Settle FTC Charges They Deceived Consumers" *Federal Trade Commission*, Press Release, February 18, 2016, https://www.ftc.gov/news-events/press-releases/2016/02/operators-bitcoin-mining-operation-butterfly-labs-agree-settle.

[15] "Crypto Crime Summarized: Scams and Darknet Markets Dominated 2020 by Revenue, But Ransomware Is the Bigger Story," *Chainalysis Blog*, January 19, 2021, https://blog.chainalysis.com/reports/2021-crypto-crime-report-intro-ransomware-scams-darknet-markets.

substantial hack or loss of customer funds. Operators of money laundering overseas exchanges have been arrested.[16] Sales of unregistered tokenized securities have been targeted by SEC enforcement.[17] And criminal ransomware rings have had their servers seized and their ransoms recovered.[18]

All of this has happened by sensibly applying existing laws to the cryptocurrency space. We don't need new regulations.[19] And all of this has also happened while preserving the fundamental value of cryptocurrencies as open access platforms for financial services and innovation.[20]

Unlike any other electronic transactions technology an open blockchain network is accessible to people that banks and tech companies ignore rather than serve.[21] Unlike any other transaction processing network an open blockchain network has public standards for integration and compatibility so that anyone who'd like to build a transactions focused business or invent a new transactions dependent technology can connect and immediately offer their new idea to the world.[22]

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[16] *See, e.g.*: "Russian National And Bitcoin Exchange Charged In 21-Count Indictment For Operating Alleged International Money Laundering Scheme And Allegedly Laundering Funds From Hack Of Mt. Gox," *Department of Justice*, Press Release, July 26, 2017, https://www.justice.gov/usao-ndca/pr/russian-national-and-bitcoin-exchange-charged-21-count-indictment-operating-alleged.

[17] *See, e.g.*: *In the Matter of Munchee, Inc.*, Securities and Exchange Commission, Securities Act of 1933 Release No. 10445, Administrative Proceeding File No. 3-18304, December 11, 2017, https://www.sec.gov/litigation/admin/2017/33-10445.pdf.

[18] *See, e.g.*: "Department of Justice Seizes $2.3 Million in Cryptocurrency Paid to the Ransomware Extortionists Darkside," Department of Justice, Press Release, June 7, 2021, https://www.justice.gov/opa/pr/department-justice-seizes-23-million-cryptocurrency-paid-ransomware-extortionists-darkside.

[19] Jerry Brito and Peter Van Valkenburgh, "Comments to the Financial Crimes Enforcement Network on Requirements for Certain Transactions Involving Convertible Virtual Currency or Digital Assets," *Coin Center*, December 22, 2020, https://www.coincenter.org/comments-to-the-financial-crimes-enforcement-network-on-requirements-for-certain-transactions-involving-convertible-virtualcurrency-or-digital-assets/.

[20] *See, generally*: Jerry Brito, "Is bitcoin regulated?" *Coin Center*, January 13, 2015, https://www.coincenter.org/education/blockchain-101/is-bitcoin-regulated/.

[21] *Id.*

[22] *Id.*

With the rise of central bank digital currencies from authoritarian nations happening in tandem with the rise of Bitcoin,[23] we are at a decision point as an advanced, technological, open society. Are we willing to accept some risks if it means we can eliminate the choke-points to economic participation that further inequality and stifle innovation?[24] Or would we prefer to strengthen those choke-points and outlaw alternatives in the hopes that a powerful elite will smartly choose who should and should not have access to powerful tools and volatile markets.

For every transaction we want blocked there's a transaction that we should celebrate for being unstoppable. Yes, there are criminals making payments on the Bitcoin network because banks won't bank them. There are also pro-democracy activists in Belarus and anti-police-violence protesters in Nigeria taking donations on the Bitcoin network because local banks won't bank them.[25] Nonprofits BYSOL in Belarus and Feminist Coalition in Nigeria raised millions of dollars in Bitcoin donations last year.[26] Donations they were forbidden from accepting by a corrupt or otherwise uncaring banking sector in their respective countries.

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[23] James T. Areddy, "China Creates Its Own Digital Currency, a First for Major Economy," *Wall Street Journal*, April 5, 2021, https://www.wsj.com/articles/china-creates-its-own-digital-currency-a-first-for-major-economy-11617634118.

[24] Foundationally, an open society is buttressed by the availability of payments technologies, like cash, that do not allow for pre-screening and prior restraint against economic activity. As cash usage and availability declines we will need to rely on new tools for "electronic cash" as a guarantor of our freedom and privacy. *See, generally*: Jerry Brito, "The Case for Electronic Cash," *Coin Center*, February 2019, https://www.coincenter.org/the-case-for-electronic-cash/.

[25] S*ee, generally*: Alex Tapscott, "Bitcoin offers freedom from political repression—and that's a key to its future," *Fortune*, February 18, 2021, https://fortune.com/2021/02/18/bitcoin-censorship-political-repression-deplatforming-china-belarus-russia-nigeria-crypto/.

[26] Anna Baydakova, "Belarus Nonprofit Helps Protestors With Bitcoin Grants," *CoinDesk*, September 9, 2020, https://www.coindesk.com/belarus-dissidents-bitcoin; Yomi Kazeem, "How bitcoin powered the largest Nigerian protests in a generation," *Quartz Africa*, October 26, 2020, https://qz.com/africa/1922466/how-bitcoin-powered-nigerias-endsars-protests/.

For every decentralized app that's trying to scam investors there's another that's testing out ways to disburse universal basic income,[27] or remove the corporate control over social networking,[28] or eliminate the hacking risk inherent in centralized identity solutions.[29]

In America we don't always agree. But no matter what we are tolerant and expect everyone to have the opportunity to stand up and fight for their vision of the good. Crypto innovation embodies that struggle. It's rough around the edges but holds some values above all: every node is an equal, no one's voice should be censored, and work rather than privilege is what counts in consensus.

Thank you and I look forward to your questions.

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[27] *See, e.g.:* Jimmy Ragosa, Santiago Siri, Federico Ast, Clement Lesaege, "Introducing UBI: Universal Basic Income for Humans," *Kleros Blog*, March 12, 2021, https://blog.kleros.io/introducing-ubi-universal-basic-income-for-humans/.
[28] *See, e.g.*: Status Mission Statement, accessed June 28, 2021, https://status.im/about/.
[29] Pamela Dingle, "ION – We Have Liftoff!" *Microsoft Tech Community Blog,* March 25, 20210, https://techcommunity.microsoft.com/t5/identity-standards-blog/ion-we-have-liftoff/ba-p/1441555.

Truth in Testimony Disclosure Form

In accordance with Rule XI, clause 2(g)(5)* of the *Rules of the House of Representatives*, witnesses are asked to disclose the following information. Please complete this form electronically by filling in the provided blanks.

Committee:

Subcommittee: Subcommittee on Oversight and Investigations

Hearing Date: June 30, 2021

Hearing Title:

"America on "FIRE": Will the Crypto Frenzy Lead to Financial Independence and Early Retirement or Financial Ruin?"

Witness Name: Peter Van Valkenburgh

Position/Title: Director of Research

Witness Type: ○ Governmental ⊘ Non-governmental

Are you representing yourself or an organization? ○ Self ⊘ Organization

If you are representing an organization, please list what entity or entities you are representing:

Coin Center

FOR WITNESSES APPEARING IN A NON-GOVERNMENTAL CAPACITY

Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.

Are you a fiduciary—including, but not limited to, a director, officer, advisor, or resident agent—of any organization or entity that has an interest in the subject matter of the hearing? If so, please list the name of the organization(s) or entities.

No

Please list any federal grants or contracts (including subgrants or subcontracts) related to the hearing's subject matter that you, the organization(s) you represent, or entities for which you serve as a fiduciary have received in the past thirty-six months from the date of the hearing. Include the source and amount of each grant or contract.

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Please list any contracts, grants, or payments originating with a foreign government and related to the hearing's subject that you, the organization(s) you represent, or entities for which you serve as a fiduciary have received in the past thirty-six months from the date of the hearing. Include the amount and country of origin of each contract or payment.

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Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.

☑ I have attached a written statement of proposed testimony.

☑ I have attached my curriculum vitae or biography.

*Rule XI, clause 2(g)(5), of the U.S. House of Representatives provides:

(5)(A) Each committee shall, to the greatest extent practicable, require witnesses who appear before it to submit in advance written statements of proposed testimony and to limit their initial presentations to the committee to brief summaries thereof.

(B) In the case of a witness appearing in a non-governmental capacity, a written statement of proposed testimony shall include— (i) a curriculum vitae; (ii) a disclosure of any Federal grants or contracts, or contracts, grants, or payments originating with a foreign government, received during the past 36 months by the witness or by an entity represented by the witness and related to the subject matter of the hearing; and (iii) a disclosure of whether the witness is a fiduciary (including, but not limited to, a director, officer, advisor, or resident agent) of any organization or entity that has an interest in the subject matter of the hearing.

(C) The disclosure referred to in subdivision (B)(iii) shall include— (i) the amount and source of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) related to the subject matter of the hearing; and (ii) the amount and country of origin of any payment or contract related to the subject matter of the hearing originating with a foreign government.

(D) Such statements, with appropriate redactions to protect the privacy or security of the witness, shall be made publicly available in electronic form 24 hours before the witness appears to the extent practicable, but not later than one day after the witness appears.

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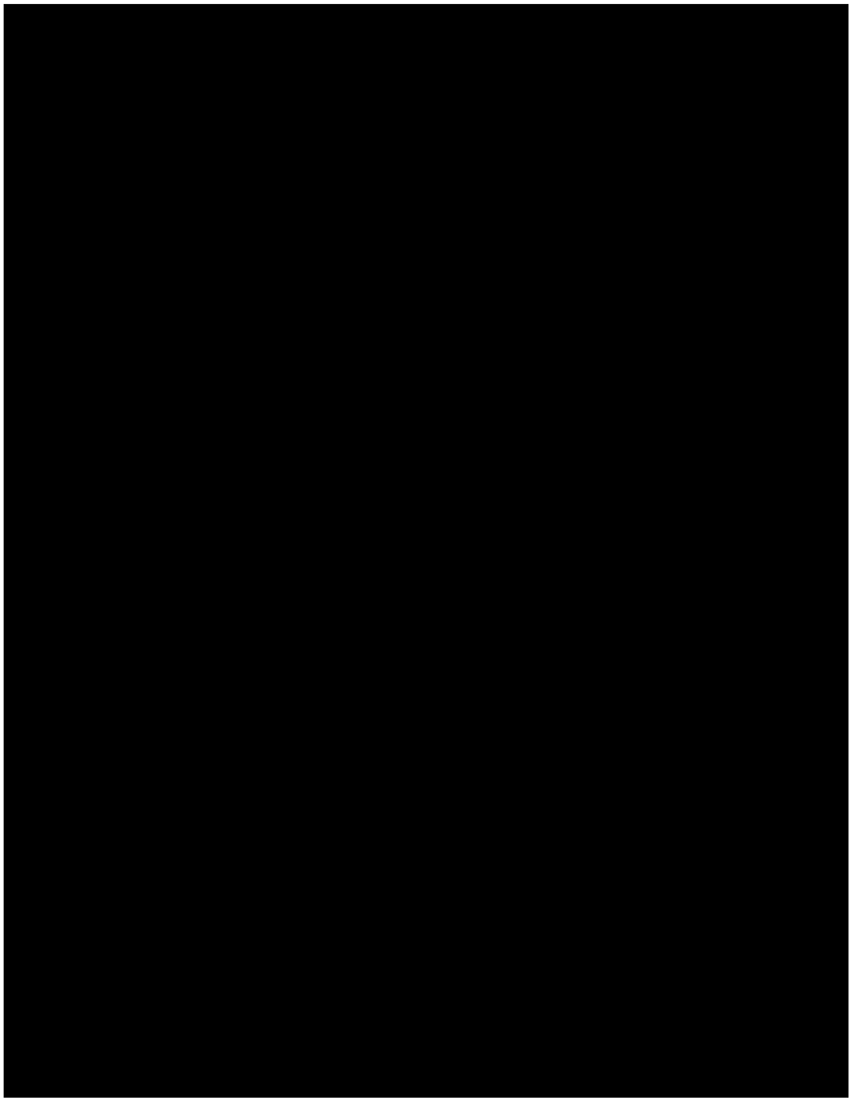
Knowingly providing material false information to this committee/subcommittee, or knowingly concealing material information from this committee/subcommittee, is a crime (18 U.S.C. § 1001). This form will be made part of the hearing record.

[redacted] 6/29/2021

Witness signature Date



https://www.wsj.com/articles/bitcoin-miners-are-giving-new-life-to-old-fossil-fuel-power-plants-11621594803

MARKETS

Bitcoin Miners Are Giving New Life to Old Fossil-Fuel Power Plants

The lofty prices of cryptocurrencies have investors sinking money into electricity generation, risking a backlash

Marathon Digital Holdings and the owner of the Hardin Generating Station in Montana aim to use the coal-fired power plant to fuel a bitcoin mining hub.
PHOTO: MIKE CLARK/THE BILLINGS GAZETTE

By Brian Spegele and Caitlin Ostroff
May 21, 2021 7:00 am ET

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Across America, older fossil-fuel power plants are shutting down in favor of renewable energy. But some are getting a new lease on life—to mine bitcoin. In upstate New York, an idled coal plant has been restarted, fueled by natural gas, to mine cryptocurrency. A once-struggling Montana coal plant is now scaling up to do the same.

The lofty price of bitcoin and other cryptocurrencies has investors pouring money into power generation—and risking a backlash. Elon Musk tweeted last week that Tesla Inc. would no longer accept bitcoin as payment for vehicles over concerns about fossil-fuel use in bitcoin mining. That rocked the market; bitcoin prices are now down around 25% since last week.

The drive for power has its roots in bitcoin's intractable mathematics: To operate securely, the cryptocurrency's network relies on computers solving puzzles; in return the solvers get fresh bitcoin. The higher the bitcoin price, the more of these miners compete to solve the puzzles—a process that chews up electricity. The more competition, the harder the puzzles get and the more electricity is used.

SHARE YOUR THOUGHTS

Do you think cryptocurrency is here to stay? Why or why not? Join the conversation below.

A University of Cambridge index pegs the annual power consumption of bitcoin mining at around 130 terawatt-hours, more than three times higher than at the beginning of 2019. That would be more than the power consumption of Argentina.

The coal-fired Hardin Generating Station in Montana had been struggling for years. Late last year, a Nasdaq-listed miner called Marathon Digital Holdings Inc. MARA **-2.41%** ▼ partnered with Hardin's owner to transform the power plant into a hub for mining bitcoin.

"It was an idle asset," Fred Thiel, Marathon Digital's chief executive, said in an interview. "We were able to get access to a large amount of power at a very attractive price."

The project is in the process of scaling up, with more than 100 megawatts of power capacity planned. Marathon Digital, whose investors include BlackRock Inc. and the hedge fund Renaissance Technologies LLC, said that by tapping the Montana coal plant, its break-even costs to produce a bitcoin will fall to $4,600, 38% less than previously.

The company is aiming to produce at least 55 bitcoins daily by the first quarter of next year, up from an average of two a day in 2020.

Besides mining bitcoin, Marathon Digital said that as of March it had nearly $300 million worth of bitcoin on its balance sheet, in an effort to signal its confidence in bitcoin's future and attract institutional investors to the stock who might want exposure to the cryptocurrency but were unable to or unwilling to invest in it directly.

BlackRock and Renaissance declined to comment.

Private-equity firm Atlas Holdings bought the idled Greenidge power station in 2014.
PHOTO: JOHN CHRISTENSEN/THE CHRONICLE EXPRESS/USA TODAY NETWORK

One of the most ambitious—and controversial—projects comes from private-equity firm Atlas Holdings. Based in Greenwich, Conn., the firm specializes in turnarounds of troubled companies. It bought the Greenidge coal-fired power station in 2014 after the plant in Dresden, N.Y. had been shut a few years earlier because it was economically unattractive to operate.

Atlas first converted the plant to natural gas from coal. Then, last year, it launched a data center for mining bitcoin using power the plant generated. The company said it currently has 19 megawatts of mining capacity and plans to raise it to 85 megawatts by the end of 2022.

Yvonne Taylor, vice president of the environmental nonprofit Seneca Lake Guardian, said air pollution and water runoff will damage a small community whose fresh air and clean water enables tourism, agriculture and fishing in the Finger Lakes.

Last month, local campaigners led a march to the gates of the power plant, and some groups have written letters to New York's Department of Environmental Conservation and Gov. Andrew Cuomo urging them to revoke the plant's permits.

The state has declined to do so. Last month, however, the Department of Environmental Conservation said it was closely monitoring Greenidge's planned expansion. It said it also would consult the U.S. Environmental Protection Agency about the facility's greenhouse-gas implications.

A generator at Greenidge. The plant has drawn opposition from environmental activists in New York's Finger Lakes region.
PHOTO: JOHN CHRISTENSEN/THE CHRONICLE EXPRESS/USA TODAY NETWORK

Greenidge said in March it was going public through a merger with Nasdaq-listed Support.com, SPRT -3.43% ▼ which provides outsourced customer-support services. Under the deal, Support.com shareholders would get 8% of the combined company's shares.

In exchange, Greenidge said it would use the cash on Support.com's balance sheet to fund its expansion. There's another potential benefit as well: Support.com has more than $145 million in federal net operating loss carryforwards, which could significantly lower the combined company's taxes if the bitcoin operations prove to be profitable going forward.

Greenidge didn't respond to a question on the potential tax advantages. It said last week it would begin purchasing voluntary carbon offsets and invest a portion of its mining profits in renewable-energy projects. Besides mining bitcoin, Greenidge said the power plant continues to send electricity to the grid.

"Greenidge has transformed an old coal-fired power plant into a clean, reliable source of power for thousands and an integrated data processing center mining bitcoin," the company said in written response to questions. "We are grateful to enjoy great support from the local community."

Support.com declined to comment.

The project has drawn the attention of state lawmakers in Albany, where a bill under review would place a three-year moratorium on crypto currency mining amid emissions concerns.

"New York is literally the world's headquarters for finance," said state Sen. Kevin Parker, a Democrat who sponsored the bill. "But we also want that to be done in a way that comports with our values."

The proposal is a problem for Michel Amar, the CEO of Digihost Technology Inc. In 2015, Mr. Amar and his son began building out mining capacity in northwest New York state, hoping to take advantage of cheap, clean power that comes from hydro generation around Niagara Falls.

Their company produces more than 30 bitcoins each month, and gets more than 90% of its electricity from hydro power.

This year, amid the bitcoin price surge, the company announced it would also buy a 60-megawatt natural-gas plant north of Buffalo, N.Y. It plans to initially direct 35 megawatts toward bitcoin mining while also sending power to the grid when it's needed.

Mr. Amar said the company would partly fuel the plant with natural gas derived from animal manure and other sources.

At the same time, he said the company is considering leaving New York if the moratorium is imposed, potentially setting up shop in other states or Canada.

"What is the difference between a data center processing for Amazon and a data center for bitcoin?" he said. "Our goal and commitment is to be green as much as we can."

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Appeared in the May 22, 2021, print edition as 'Bitcoin Revives Older Power Stations.'

COIN CENTER

Peter Van Valkenburgh[1]

Director of Research at Coin Center

RESPONSES TO QUESTIONS FOR THE RECORD

"America on "FIRE": Will the Crypto Frenzy Lead to Financial Independence and Early Retirement or Financial Ruin?"

June 30, 2021

Questions for Mr. Peter Van Valkenburgh, Director of Research, Coin Center, from Representative Warren Davidson:

- **Does the composition of the underlying assets of USDT make it a security? What are the investor protections in place for counterparty risk of insolvency in stablecoins?**

The definition of a security in US law is inherently flexible and fact intensive. Stablecoins, USDT among them, are not a homogenous product type. The facts of any particular stablecoin issuance will determine whether it is or is not a security under US law, and it is very possible—if not likely—that some stablecoins will qualify as securities while others will not. The definition of a security in the relevant statutes includes the terms "investment contract" and "note" and these terms have, in the past, been further clarified through the courts. The most relevant cases are *SEC v. Howey*,[2] from which the "*Howey* test" for an investment contract is derived, and *Reves v. Ernst & Young*,[3] from which the "*Reves* family resemblance test" for notes is derived. Neither of these cases, however, dealt with digital assets or stablecoins specifically so we can only reason by analogy. Because this an area of genuine uncertainty regarding underlying law and interpretation, ultimately, only a judge will be able to decide. Key factors from prior case law that will be relevant to that judgement include:

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[1] Peter is Director of Research at Coin Center, the leading independent non-profit research and advocacy group focused on the public policy issues facing cryptocurrency technologies such as Bitcoin. http://coincenter.org

[2] *SEC v. Howey*, 328 U.S. 293 (1946).

[3] *Reves v. Ernst & Young*, 507 U.S. 170 (1993).

A. Whether there is a regulatory regime already in place that mitigates the risks to persons holding the stablecoin (an important factor in the *Reves* family resemblance test).[4] We note that some stablecoins are issued by chartered trust companies and licensed money transmitters that are supervised by US state banking regulators. This supervision may mean that such stablecoins are not securities. Other stablecoins are issued by off-shore entities that may not have comparable supervision and these may be found to be securities.
B. Whether the issuer of the stablecoin exercises ongoing entrepreneurial or managerial discretion in selecting which assets should back the value of the stablecoin at any particular time (a factor in the *Howey* test).[5] We note that some stablecoins are backed by a limited category of low risk assets approved by a regulatory authority while others are backed by commercial paper or other riskier assets chosen by the issuer outside of any regulatory limitation. More discretion means the stablecoin is more likely to fit the relevant tests for securities.
C. Whether the purchaser of a stablecoin expects profits dependent on the managerial efforts of the issuer (an essential factor in the *Howey* test).[6] We note that some stablecoin issuers also offer interest on issued coins under certain conditions. Additionally, traditional stable value funds are regulated as securities despite offering no profits or growth beyond mere wealth preservation. An expectation of profits would augur in favor of the stablecoin being classified as a security.
D. Whether the stablecoin is issued alongside additional promises or services upon which the purchaser relies. In *Gary Plastic v. Merrill Lynch*, a court found that even if the underlying asset (in that case bank-issued certificates of deposit) were not securities, the purchaser agreement as a whole could be a security if additional promises were made (in that case guaranteeing a liquid market for resale before CD maturity, and managing deposit insurance claims, among others).[7] If the issuer of a stablecoin also provides a liquid market for buying and selling the stablecoin, or otherwise promises to enhance the value inherent in holding the stablecoin, then the purchaser agreements as a whole, if not the underlying stablecoin itself, could be found to constitute a securities offering.

We cannot determine with authority whether USDT or any other stablecoin is a security; that should be determined by a judge. These are, however, the primary factors that we believe will influence that determination.

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[4] *Id.* ("we examine whether some factor such as the existence of another regulatory scheme significantly reduces the risk of the instrument, thereby rendering application of the Securities Acts unnecessary.").
[5] *Supra* note 2.
[6] *Id.*
[7] *Gary Plastic Packaging v. Merrill Lynch,* 903 F.2d 176 (2d Cir. 1990).

Regarding the second half of the question, "what are the investor protections in place for counterparty risk of insolvency in stablecoins," the answer will, again, depend on the facts of any specific stablecoin. If the stablecoin in question is issued by a US state banking authority regulated entity (*i.e.* a licensed money transmitter or a chartered trust company), then various protections will be in place including minimum capital requirements, bonding, yearly examinations, mandated consumer disclosures and other guardrails.[8] If the stablecoin is issued by an overseas entity without comparable supervision, then there may not be protections in place beyond the securities laws.

[8] *See*, e.g., "Organization of a Trust Company for the Limited Purpose of Exercising Fiduciary Powers," New York State Department of Financial Services, accessed September 10, 2021, https://www.dfs.ny.gov/apps_and_licensing/banks_and_trusts/procedure_certificate_merit_trust_comp.

Questions for Mr. Peter Van Valkenburgh, Director of Research, Coin Center, from Ranking Member Tom Emmer:

- **Do cryptocurrencies and/or stablecoins pose a risk to financial stability?**

Cryptocurrencies and stablecoins are fundamentally different assets so we'll take each in turn.

Cryptocurrencies do not pose a meaningful risk to financial stability. Cryptocurrencies are, speaking generally, commodities.[9] Just like more traditional physical commodities (gold, oil, etc.), cryptocurrencies are scarce, fungible, and durable goods. Just like gold or oil they can be used for various purposes or purchased on spot-markets and held as a speculative investment. As with other commodities, their value is not backed by the promises of an issuer, promoter, or other counterparty. Instead, their value is derived from basic interplay of supply and demand.

Speaking generally, financial stability is jeopardized when a significant number of investors take leveraged positions in assets with inherent information asymmetries that cause malinvestment, sudden price changes due to uncertainty, widespread bankruptcy, and ultimately contagion to the larger market. These information asymmetries are prevalent in exotic assets that are designed, backed, or insured by some issuer or authority, *e.g.* tranched mortgage backed securities, credit default swaps, collateralized debt obligations, etc. Investors may believe they have a reliable impression of the relative risks inherent in these investments but they are often unable to get a full picture of those risks because of intractable uncertainties inherent in relying on several counterparties and associated promises, *e.g.* mortgagees, insurers, and securitizers.

When an investor purchases a commodity on a spot market (including a cryptocurrency) there is no such chain of counterparties. There is no issuer or promoter whose promises about the asset could be revealed as fraudulent or ill-conceived. The prices of these assets can, without a doubt, be volatile. Gold has swung wildly in value over the past and oil prices even swung negative briefly during the substantial supply chain disruptions at the start of the novel coronavirus pandemic. Cryptocurrencies like Bitcoin and Ethereum similarly evince notorious price volatility. Nonetheless, volatility is anticipated by commodities investors. Facts about the commodities market are to a large extent public knowledge, and no promise or guarantee is ever presumed to back the value of a commodity asset. The public availability of commodities market information and the lack of reliance-generating counterparties reduces dangerous information asymmetries and limits price uncertainty. For example, even though oil prices

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[9] "Digital Assets Primer," Commodity Futures Trading Commission, December 2020, https://www.cftc.gov/media/5476/DigitalAssetsPrimer/download.

turned negative in the summer of 2020, they quickly rebounded and the episode did not cause a wider and lasting shock to the economy writ-large.

When commodity trading becomes highly financialized (*e.g.* margin trading, leverage, securitization etc.) those commodities derivatives could, of course, begin to exhibit the same price uncertainty and contagion risk as other assets. However, that is not a problem inherent to cryptocurrencies or cryptocurrency spot market transactions; these issues are inherent in derivatives writ-large (be they cryptocurrency derivatives, or any other derivative) and that's why regulations apply to much of the derivatives trading landscape. If there is an addressable stability risk there, it comes from inadequate derivatives regulation, rather than something insidious about spot market purchases of commodities.

Several prominent economists agree that the cryptocurrency market does not pose substantial risks to financial stability. Last July, Atlanta Fed President Raphael Bostic said, "There's a lot of volatility in it, but right now it's not at a scale and it doesn't have a reach into the economy that has systemic implications for us[.] … It's not something I really incorporate very much into how I think about where our policy should be."[10] Similarly, St. Louis Federal Reserve president James Bullard has said that "By itself I don't see [it] as a systemic concern at this point," and "We are all quite aware that crypto can be very volatile."[11]

Last May the European Central Bank published a report finding that risks to financial stability from crypto assets "appear limited."[12] Additionally, a poll of leading European economists conducted by the UK based Center for Macroeconomics found that over 70% did not believe that cryptocurrencies posed any threat to financial stability.[13]

Stablecoins, unlike cryptocurrencies, are backed by an issuer or issuers. Their continued value is reliant on the promises of their issuers. This reliance can create the sort of information asymmetries discussed earlier. Accordingly, stablecoins may be a threat to financial stability if they are utilized at scale and if they are not sensibly issued and backed. We note that some stablecoins are issued by American companies that are supervised by state banking regulators. These regulations may alleviate otherwise dangerous asymmetries. Other stablecoins, however, are issued by overseas entities without comparable regulatory supervision. These may carry greater uncertainty for investors which, if their usage was at a sufficient scale, could result in larger market disruptions. However, this is an issue of enforcing existing laws and regulations

[10] "Fed officials: Crypto rout not a systematic concern," *Reuters*, May 19, 2021, https://www.reuters.com/technology/bullard-crypto-rout-not-systemic-concern-2021-05-19
[11] *Id.*
[12] "Financial Stability Review, May 2021," European Central Bank, May 2021, https://www.ecb.europa.eu/pub/financial-stability/fsr/html/ecb.fsr202105~757f727fe4.en.html.
[13] "Bitcoin and the City," *Center for Macroeconomics (CFM) Surveys*, Center for Economic Policy Research, December 19, 2017, https://cfmsurvey.org/surveys/bitcoin-and-city.

rather than an indictment of stablecoins as an asset type in general. As Fed Board Vice Chair for Supervision Randal Quarles has remarked, "We do not need to fear stablecoins. The Federal Reserve has traditionally supported responsible private-sector innovation. [A] global U.S. dollar stablecoin might support the role of the dollar in the global economy. And the concern that stablecoins represent the unprecedented creation of private money and thus challenge our monetary sovereignty is puzzling given that our existing system involves—indeed depends on—private firms creating money every day."[14] As Quarles continues, the issue is not private issuance of dollar backed tokens, but rather a question of finding an appropriate regulatory form for the issuer: "these concerns are eminently addressable—indeed, some stablecoins have already been structured to address them. When our concerns have been addressed, we should be saying yes to these products, rather than straining to find ways to say no."[15]

- **Blockchains have been portrayed as a way to improve digital identity and cybersecurity; are cryptocurrencies needed to achieve these benefits?**

Blockchains on their own, as in hash-linked data structures, are merely a particular way to encode information, and, as such, do little to improve digital identity and cybersecurity. By analogy, a lousy summer blockbuster won't miraculously become a great film simply because you've released it on 8K Blu-ray discs. Blockchains that are generated by cryptocurrency networks and secured by an open set of participants, however, do offer real promise to improve digital identity and cybersecurity. We call these "permissionless" or "open" blockchain networks.[16]

Traditional databases, whether for identity data or other valuable information, are only as secure as the individual or company that maintains the servers and software upon which they rely. Traditional databases have so-called root users who can view and manipulate any piece of information that the database contains. As such, if that root user account is compromised, so too are the accounts of every other user. Open blockchain networks do not have root users. The network as a whole comes to agreement over shared data, a process called consensus, and any individual user is only ever able to manipulate data that is associated with cryptographic credentials that she controls. For example, I can move bitcoins from one address to another if and only if I have a private key that corresponds to the sending address. No other person on earth can move those bitcoins unless they obtain my private key.

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[14] Randal K. Quarles, "Parachute Pants and Central Bank Money," Speech before the 113th Annual Utah Bankers Association Convention, Sun Valley, Idaho, June 28,2021, https://www.federalreserve.gov/newsevents/speech/quarles20210628a.htm.
[15] Peter Van Valkenburgh, "Open Matters: Why Permissionless Blockchains are Essential to the Future of the Internet," *Coin Center* (2016) https://coincenter.org/entry/open-matters.
[16] *Id.*

Hacking remains an issue even with open blockchain networks because any individual user could be attacked, her keys and credentials compromised, and her valuable data stolen or cryptocurrency moved. However, in an open blockchain network there is no root user whose account could be compromised such that everyone's valuable data is placed at risk. This change in architecture and the resultant elimination of a risk-generating central party or choke point is what makes *open* blockchain networks promising innovations from an information security perspective.

Open blockchain networks cannot exist without cryptocurrencies.[17] People all over the world must be incentivized to maintain and secure these networks. If that incentive was dependent on a legal contract to pay dollars, or some other promise to pay some other traditional currency, then we'd still have a root user choke point problem of sorts: whoever makes that promise or whoever backs the value of that currency would be the single point of failure who could, in theory, be hacked and thus compromise the data of all network users. Therefore, cryptocurrency networks are deliberately designed to automatically remunerate honest participants with an asset that is described by data within the blockchain itself, a cryptocurrency. For example, persons securing the bitcoin blockchain (often referred to as bitcoin miners) can give themselves a reward denominated in bitcoins when they add a new valid block to the chain. If Bitcoin relied on bank transfers of dollars in order to reward miners for maintaining the blockchain then the system could be easily attacked by hacking the relevant banks and stopping the payments.

Permissionless blockchain networks powered by cryptocurrencies are, therefore, foundational to making meaningful improvements in digital identity technologies and cybersecurity generally. While open blockchain networks primarily record transactional data about user cryptocurrency transactions, there's no technical reason why they could not also record other socially relevant data like the issuance or revocation of an identity credential. Engineered carefully this would be a significant improvement over existing siloed digital identity systems that are only as secure as the company that maintains the centralized database. Major enterprise software developers have begun to seriously explore these tools. For example, Microsoft has worked extensively on an open source decentralized identity tool, the Ion Network, that anchors critical data in the bitcoin blockchain to ensure global availability and tamper resistance.[18]

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[17] *Id.*
[18] Pamela Dingle, "ION– Booting up the network," *Microsoft*, June 10, 2020, https://techcommunity.microsoft.com/t5/identity-standards-blog/ion-booting-up-the-network/ba-p/1441552.